



STATE OF SINGAPORE

COMPLIMENTARY

REPORT OF THE MINISTRY OF HEALTH

for the year ended 31st December, 1959

BEING THE ANNUAL REPORT ON THE MEDICAL DEPARTMENT
BY THE DIRECTOR OF MEDICAL SERVICES
FOR THE YEAR
1959



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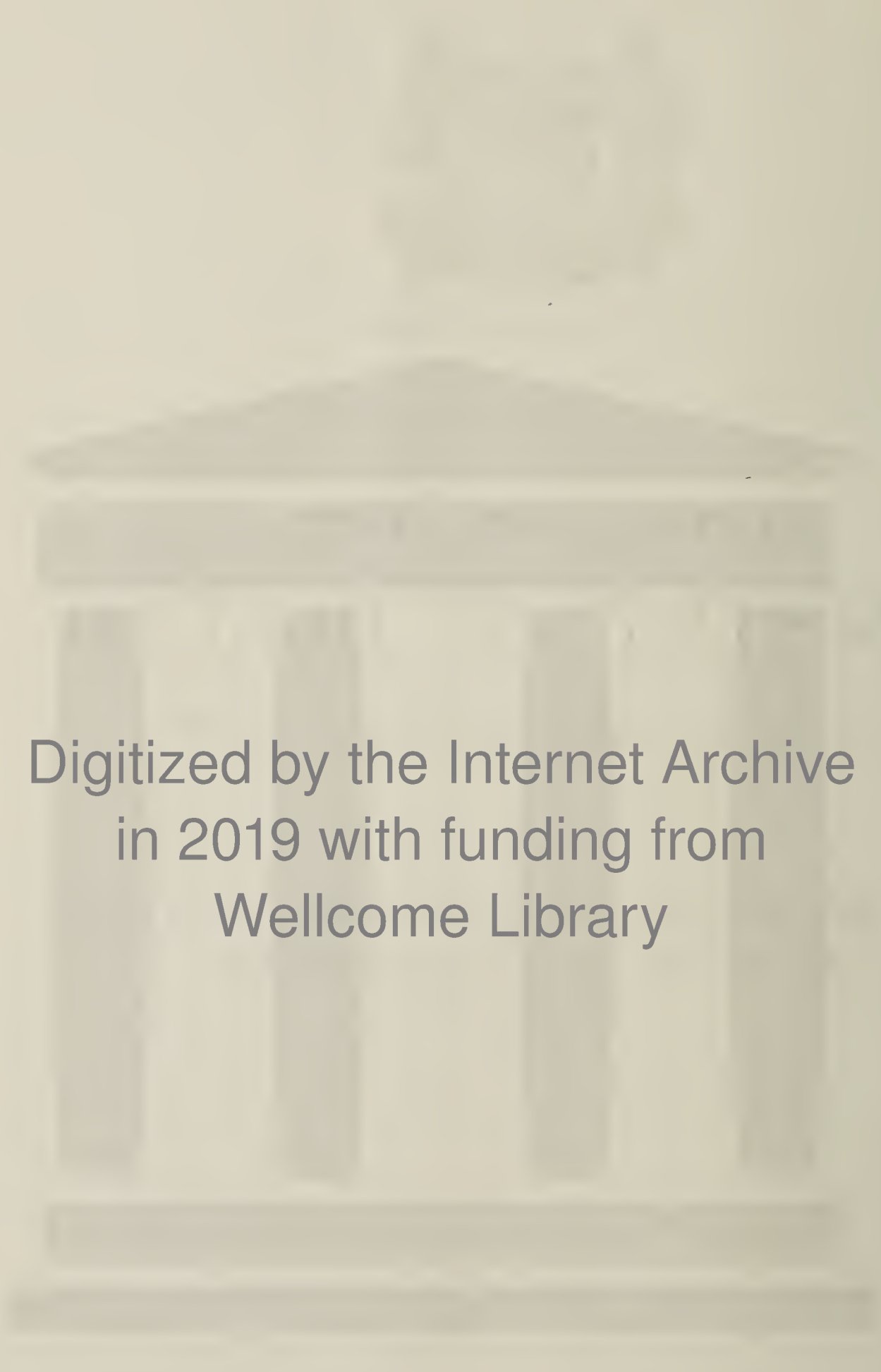


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INTRODUCTION

TO THE HONOURABLE MR. K. M. BYRNE,
MINISTER FOR HEALTH AND LAW,
SINGAPORE.

Sir,

I have the honour to submit a report on the state of the Medical and Health Services in Singapore for the year ended 31st December, 1959.

GENERAL REVIEW

2. One of the important features of 1959 was the first steps taken to establish a unified, co-ordinated and effective administration of public medical and health services under the Ministry of Health. To this end in November 1959, the responsibility for the health services of the local authorities was transferred to the Minister for Health. In the Ministry itself active steps were taken towards the establishment of the Hospitals Division which would bring all hospital administration under the unified administration of the Assistant Director of Medical Services (Hospitals). From June onwards in the re-allocation of functions of Government Ministries, the Department of Chemistry was brought under the Ministry of Health.

3. Singapore still has a shortage of medical and nursing personnel in the public service but this situation is expected to be relieved in due course because of the rising output of the University's Medical Faculty and the Government's Schools of Nursing. In 1959, there was one physician per 2,300 persons, one qualified dentist per 19,000 persons (one dentist of all categories per 4,000) and one nurse (all types) per 800. Despite the extensive public medical service, more than half of the physicians on the Medical Register are engaged in private practice.

4. The aggregate public expenditure for health in 1959 was \$37.5 million which represents \$25 *per capita*.

5. Singapore remained free from cholera, plague, and yellow fever in 1959. A minor outbreak of small-pox occurred in April involving ten cases with two deaths, initiated by a transit passenger possessing a valid international vaccination certificate. No cases of malaria of indigenous origin occurred during the year.

6. Singapore still has many health needs. Tuberculosis presents the most serious problem; the Report on the Pilot Survey conducted under the Colombo Plan was ready in 1959 and sets the incidence at 3 per cent of the population.

7. Vital statistics maintain a progressive decline; the crude birth rate 39.5 (compared with 41.3 in 1958), the crude death rate 6.4 (compared with 7.0 in 1958), infantile mortality 36.0 (compared with 43.73 in 1958) and maternal mortality rate 0.7 (compared with 0.8 in 1958).

STAFF POSITION

8. The approved establishment and the number of vacancies at the end of 1959 is shown in Table 1.

Primary Examination of the R.A.C.S.

9. Under the Colombo Plan, the Royal Australian College of Surgeons again conducted the Primary Examination for their Fellowship in Singapore in April 1959. A preparatory study course, conducted by the Australian lecturers prepared 22 doctors for the Primary Examination, six of whom were from the Medical Department, Singapore. Of a total 25 who sat for the Primary Examination, six were successful of whom three were Singapore Government officers.

TABLE 1

PROFESSIONAL STAFF POSITION OF MEDICAL DEPARTMENT
31ST DECEMBER, 1959

MEDICAL OFFICERS

	Grade <i>C</i>	Grade <i>D</i>	Grade <i>E</i>	Grade <i>G</i>	Senior Regis- trars	Medical Officers	House- men
Approved Establishment ..	1	1	11	34	30	224	50
Effective personnel at 31-12-59	—	—	5	12	11	204	24
Number of vacancies at 31-12-59	1	1	6	22	19	20	26

NURSING STAFF

	MATRONS			Sisters	Staff Nurses and Student Nurses
	Prin- cipal Matron	Grade <i>I</i>	Grade <i>II</i>		
Approved Establishment ..	1	5	12	186	1,068
Effective personnel at 31-12-59 ..	1	3	7	107	881
Number of vacancies at 31-12-59 ..	—	2	5	79	187

ANCILLARY STAFF

	Radio- graphers	Physio- therapists	Occupational Therapists	Almoners
Approved Establishment ..	30	20	10	28
Effective Personnel at 31-12-59 ..	16	14	4	21
Number of vacancies at 31-12-59	14	6	6	7

Institute of Health

10. This was the second year of operation of the Institute of Health. It continued to serve as a centre for the practice and teaching of public health. Courses for the Diploma in Public Health, Health Visitors for School Nurses and Public Health Inspectors were conducted at the Institute of Health. Six doctors from Malaya, Hong Kong, Korea, Japan and New Guinea attended the course for the Diploma of Public Health from the Western Pacific Region; 22 Public Health Inspectors attended their course from Singapore, Federation of Malaya and the Borneo territories; 12 Public Health Nurses from Singapore attended their Health Visitors Course. In addition, an expanding preventive service was operated providing full maternal and child health care.

11. Plans to develop training facilities for public dental nurses and dental technicians at the Institute of Health were drawn up during the year.

Training of Nursing and Auxiliary Personnel

12. For the first time, candidates from the Chinese Senior Middle III classes were recruited for General Nurse training and Chinese Senior Middle II and Standard VII Malay students were recruited for Assistant Nursing and Midwifery training alongside their English-educated colleagues. Lessons in English for the Chinese-speaking trainees were given in the first four months of training by teachers seconded from Ministry of Education, to facilitate technical instruction in the English medium.

13. A shortage of Sister Tutors made it difficult for training programmes to be fully implemented. Difficulties were added to by the lack of appointments to posts of Sisters. The service has been maintained but nevertheless strained by sharing out the additional burden among existing staff.

14. There were 452 nurses in training in the Nursing School at General Hospital at the beginning of the year, 135 additional student nurses (male and female) were recruited into the service. A total of 118 nurses (104 females and 14 males) qualified. Sixty-four obtained the certificate in midwifery.

15. 143 Assistant Nurses were in training at the Assistant Nurse Training School at Tan Tock Seng Hospital; 92 students were admitted during the year. The course of training was extended to two years and four months to include experience in surgery. Fifty-two qualified during the year.

16. Eleven nurses obtained the Certificate in Psychiatric Nursing at Woodbridge Hospital. Twelve nurses undertook the Health Visitors Course early in 1959 and will be taking the Royal Society of Health final examination in April 1960. A course in Pædiatric Nursing was instituted in the Mistri (Children's Unit) Wing of the General Hospital.

17. One officer qualified as a Pharmaceutical Chemist and another is under training overseas for this qualification.

18. Altogether 48 nurses and ancillary personnel were abroad for training of which 17 returned having acquired special experience in various branches in nursing, medical records and blood transfusion. Fifteen nurses were granted no-pay leave to take post-graduate courses abroad.

Public Health Inspectors

19. Since 1921 a course of training for Sanitary Inspectors has been carried out in Singapore leading to the Certificate of the Royal Society for the Promotion of Health. The course of training was given previously in part

of the Government Health Office, but the opening of the Institute of Health in May 1958 has meant greatly improved teaching and training facilities. Twenty Public Health Inspectors passed the examination for the Public Health Inspectors Diploma in 1959.

Ancillary Staff

20. Of the ancillary staff, eight Pupil Almoners are undergoing training at the University of Malaya in Social Studies part II (Almoner's Study). Four have completed their courses successfully. Nine Pupil Physiotherapists, 10 Pupil Radiographers, three Pupil Occupational Therapists are under training overseas. One Physiotherapist and two Occupational Therapists returned after having successfully concluded their courses.

PREVENTIVE AND SOCIAL MEDICINE

21. The pattern of health organisation provided under the Local Government Ordinance, 1957, was revised. In order that effective expansion and a co-ordinated public health policy could be better and more effectively formulated and operated the plan for five Local Authorities which were to provide their own Environmental Health Services, was dropped. All preventive health services in the State have been unified and placed under the authority of the Minister for Health.

22. Rural sanitation has continued to receive particular attention. During the year 44 new villages were brought into the scheme of rural sanitation bringing the total to 98 villages.

Health Education

23. Considerable emphasis was given to the development of health education. Plans were worked out during the year for a Mass Health Education Campaign which will be inaugurated in the new year which would cover various aspects of health education. The subjects for which the ground-work was prepared included proper nutrition, proper maternal and infant care, tuberculosis and B.C.G. vaccination, diphtheria inoculation and family planning. The training in health education for teachers, medical students and para-medical personnel was continued during the year. Weekly film shows continued to be held in the rural areas.

24. The Ministry participated in the Singapore Constitutional Exposition in January 1959, with a display depicting the activities of the preventive and curative services.

25. During the National Loyalty Week in December 1959, the Ministry of Health had an elaborate display showing the activities, work and function of all its sections including the Department of Chemistry.

School Health Service

26. The school population increased to 320,977 compared with 295,481 at the end of 1958, an increase of over 8.6 per cent. The number of schools at the end of 1958 was 718 schools including 94 private schools. Environmental sanitation in schools continued to receive regular attention, particularly in respect of the new schools which come under the Government's Grant-In-Aid Scheme. Up to the end of the year, 122,953 pupils were examined. This represents 38.3 per cent of the school population. During the year, 597 of the 624 Government and Government-Aided schools were inspected by School Health officers.

27. The School Health Service operates minor treatment clinics at four centres on the Island. 103,734 school children attended at these clinics, an increase of 9 per cent over the previous year. Two school mobile dispensaries cater for the needs of children attending rural schools. 56,258 children were treated by these travelling dispensaries.

28. During the small-pox outbreak in April, 22,900 children were vaccinated. No cases of small-pox occurred among school children.

Maternal and Child Health Service

29. The Maternal and Child Health Service provides ante-natal care to expectant mothers, domiciliary confinements and post-natal care by trained medical and nursing personnel. The service operates a network of major clinics, visiting centres and midwife stations throughout the City and rural areas. Altogether, there are 27 main clinics (7 in the City and 20 in the rural districts), 22 Visiting Centres and 8 Village Midwife Centres. Ante-natal and post-natal services are conducted in the main clinics daily and on a sessional basis in the Visiting Centres. Domiciliary midwifery services operate from the main clinics and village midwife centres, where resident midwives are accommodated. The clinics and centres in the rural areas are administered by Government, and those in the City by the City Health Department. A total of 8,316 confinements were attended by the domiciliary midwifery service—7,021 in the rural districts and 1,295 in the City.

30. Facilities for the care of infants in these clinics have been extended to children up to school-entering age. Treatment for minor ailments was also provided. Immunisation against diphtheria, whooping cough, tetanus and small-pox were intensified during the year. Over 30,000 complete diphtheria immunisations were done in both city and rural district clinics. Mobile anti-diphtheria immunisation teams visited villages off the main roads to bring the service to the remote parts of the Island. 7,000 B.C.G. vaccinations against tuberculosis were given to new-born infants.

31. During the outbreak of small-pox, the facilities of the clinics were utilised to conduct the mass vaccination campaign.

Social Diseases

32. Treatment and control of venereal disease was carried out at Middle Road Hospital. The progressive drop in the incidence of venereal disease cases has been maintained; it has dropped from 10,460 in 1949 to 4,835 in 1959 due to improved treatment facilities and intensive case-finding programme.

33. Out of 37,600 new cases seen, some 11,000 were skin cases.

34. Two travelling dispensaries follow a regular schedule and visit the rural areas. One of these dispensaries visits Rural Maternal and Child Health Centres and carried out ante-natal examination of pregnant mothers. A total of 12,863 cases were investigated and treated by both these dispensaries. In accordance with the Brussels Agreement of 1927, Singapore provides free diagnosis and treatment for seamen; 1,157 seamen availed of this facility in 1959.

35. The total number of cases of venereal disease diagnosed and treated and the total attendances at the V.D. clinics in Singapore over the past three years has been—

		1957	1958	1959
V. D. cases ...	...	5,452	5,233	4,838
Syphilitic infections ...	...	1,048	878	666
Gonorrhoea ...	...	2,856	2,808	3,027
Total attendances ...	...	190,549	197,333	218,270

Mental Health

36. Woodbridge Hospital situated on the outskirts of the City is the centre of the Mental Health Service. The hospital has a total bed-strength of 2,040 beds. During the year, 2,043 patients were admitted to the hospital and 1,842 were discharged.

37. The work of four Psychiatric Out-patient Clinics, holding six sessions per week continued to be popular both for consultation by patients and for follow-up of discharged patients.

38. The latter half of the year was a period of intensive re-organisation at the hospital. The hospital is being organised on the unit system and provision for two Psychiatric Units is being made.

ENDEMIC AND EPIDEMIC DISEASES

Malaria

39. No case of malaria of indigenous origin was reported during the year. Singapore continues to enjoy freedom from malaria but only as a result of constant vigilance on the part of the Health Department. The island of Singapore is potentially malarious and ideal for the breeding of dangerous malarial vectors.

40. *Aedes Control at the International Airport, Singapore.*—It is necessary to maintain strict aedes control around the International Airport as Singapore is a yellow fever receptive area. A special health team ensures control within the area 880 metres from the airport perimeter fence; control is maintained by residual spraying, swing fogging, clearing of secondary vegetation and the filling of tree holes and bamboo stumps. Rigorous check surveys ensure that the control is being carried out satisfactorily. *Aedes aegypti* index was nil on each of the four major surveys carried out. In November 1954 the *Aedes aegypti* index was 6 per cent.

Food and Drugs Control

41. The control of the manufacture, storage, preparation and sale of food and drugs is exercised under Food and Drugs Ordinance and regulations made thereunder. During the year more than 82,000 lb. of unsound foodstuff was destroyed. Regular sampling of imported foods and foods exhibited for sale was carried both in the city and rural areas.

Outbreak of Food Poisoning from Contaminated Barley

42. An outbreak of accidental 'parathion' poisoning due to contamination of barley in Singapore occurred in September 1959 when 35 children and three adults were affected and nine children died. The outbreak was traced to certain bags of loose pearl barley imported from Western Europe on 22nd August by a cargo-boat which had become contaminated with parathion, a prohibited insecticide not available in Singapore. Two consignments of 400 bags in all were suspected and extensive investigations enabled most of this to be traced both in Singapore and Federation of Malaya and Borneo territories. All barley from the suspected consignments was destroyed.

43. Close collaboration with the Chemists was maintained and they were responsible for the isolation of the toxic agent, parathion. Immediate control measures by wide publicity, intensive field investigations and rapid transmission of information to neighbouring territories prevented the occurrence of additional cases and the outbreak was promptly ended by means of co-ordination between hospital, field workers and chemists.

Small-pox

44. A minor outbreak of small-pox occurred in April 1959. The primary case of this outbreak was an 11-year-old Indian boy who arrived at Penang on the *State of Madras* from Madras on 15th March, 1959. Although this boy was the primary case, he was not discovered until the secondary case was admitted to hospital and confirmed nearly a month later. The first secondary case was a case of suspected small-pox in a 29-year-old Malay woman who lived a short distance from the house where the primary case had occurred. All the ten cases except one occurred in a localised area known as Kampong Alexandra; of the ten cases two died, one an unvaccinated infant.

45. The control of the disease was due to the prompt and effective action taken by the health authorities. The principal measures of case-finding and isolation promptly carried out in the local area followed by contact tracing and quarantine of these contacts helped to localise the outbreak, 244 contacts were isolated for 14 days at the Quarantine Station. 11,038 persons were compulsorily vaccinated in the local affected area. A mass vaccination campaign throughout the Island was carried out and 1.1 million vaccinations were carried out in this campaign over a period of four weeks.

Diphtheria

46. During the year 519 cases of diphtheria were admitted into the Infectious Diseases Hospital (Middleton Hospital). There were 23 deaths with a mortality of 4.43 per cent. As in previous years the incidence was highest in children under five years. Forty-four cases required relief from respiratory distress by tracheotomy operation. 528 cases of diphtheria carriers were also discovered.

Tuberculosis

47. Tuberculosis remains the major health problem in Singapore. In the efforts to control the disease, the Quarantine and Prevention of Diseases Ordinance was amended to provide for the compulsory notification of tuberculosis to the A.D.M.S. (Tuberculosis) and for the establishment of a Tuberculosis Registry. The amended Ordinance came into force on 1st August, 1958.

HOSPITALS, CLINICS AND OTHER CURATIVE SERVICES

General Hospital

48. General Hospital remains the major hospital in Singapore for the treatment of acute medical and surgical conditions. The bed-strength was increased by the addition of 40 beds for the special treatment of burns bringing the total to 1,231 beds. During the year, the admissions to the hospital totalled 39,918 compared with 36,852 in 1958.

49. A block of quarters for the accommodation of 78 Sisters and Matrons and the hostel for the accommodation of 60 housemen were completed. A unit of 40 beds for the special treatment of burns was put into operation at the beginning of the year.

Kandang Kerbau Hospital

50. This hospital has conducted on an average 92 deliveries per day in 1959 with a bed-strength of 276 obstetric beds. An additional 40 beds are utilised for gynæcological cases. Altogether 44,436 patients were admitted to the hospital during the year, of which 6,775 were gynæcological cases. 35,406 deliveries were conducted and the total attendances at the out-patient unit providing ante-natal, post-natal and gynæcological care amounted to 124,200.

51. The hospital underwent a major staff and administrative re-organisation in June and specific directives were given to ensure that despite overcrowding, conditions for deliveries should be improved; additional temporary beds were provided above the approved basic bed-strength to meet this need.

52. This hospital also provides facilities for training in midwifery and gynæcology for the Faculty of Medicine of the University of Malaya. It also trains midwives for the examination of the Central Midwives Board Singapore.

53. The hospital also provides a full out-patient service for ante-natal and post-natal and gynæcological conditions together with separate general out-patient service for women and children.

54. The following table summarises the work of the hospital during 1959, compared with the same period in 1958.

	1958	1959
Total number of cases admitted ...	39,480	44,436
Total number of maternity admissions ...	33,491	37,661
Total number of deliveries	30,146	33,609
Total number of gynæcological admissions	5,989	6,775
Total attendance at the out-patients unit	105,561	124,200
Domiciliary Delivery Service—deliveries ...	1,578	1,797
Domiciliary Aftercare Service—cases ...	9,104	10,545

Tan Tock Seng Hospital

55. During the year the out-patient department treated 2,685 new cases of active pulmonary tuberculosis. The total attendances, including re-visits, were 337,866.

56. Administratively, a Tuberculosis Control Unit was set up at the Tan Tock Seng Hospital in 1958 and was in full operation in 1959. The Unit maintains the Central Tuberculosis Registry and conducts epidemiologic studies of the disease. The Control Unit operates contact and surveillance teams for the investigation of cases reported and the surveillance of tuberculosis patients. Health Visitors pay domiciliary visits to homes of patients and investigate environmental conditions, advise on health care and a follow-up care of patients under out-patient treatment.

57. Arrangements are being made to bring Tan Tock Seng Hospital under direct administrative control of Government and draft legislation for the take-over of the Hospital Corporation has been prepared.

58. Towards the end of 1958, under the Colombo Plan assistance, a team of Australian experts led by Dr. Harvey and Dr. Rubenstein conducted a pilot survey of the population in the urban and rural areas. Altogether, over 50,000 persons were X-ray examined and investigated.

Trafalgar Home

59. Trafalgar Home is the institution for the treatment of leprosy patients and has accommodation for 1,000 patients. During the year, the average number of patients was 864; there were 376 new patients admitted and 346 patients were discharged; 22 absconsions also took place.

60. Trafalgar Home serves as an isolation centre for infectious cases and a rehabilitation centre for recovering patients. Occupational therapy in various forms is available to patients. The hospital has its farm on which recovering and recovered patients are settled. It provides active treatment with the sulphone and other more recent anti-leprosy drugs. A follow-up surveillance and treatment clinic is operated for surveillance and treatment of leprosy out-patients. There were 17,831 out-patient attendances at this clinic.

61. A major feature during the second half of the year was the firm measures taken against irregular practices among inmates—vice, gambling and secret society activities which were firmly dealt with; conditions were made generally satisfactory to the patients.

Thomson Road Hospital

62. This Hospital, though formally opened in May 1959, was not ready for the admission of patients until November 1959.

63. The hospital serves as a district hospital and plans were put in hand to provide surgical theatres and ancillary services; these were left out of the original plan which was for a Chronic Hospital. The hospital is expected to be a fully functioning district hospital by 1961.

Out-patient Services

64. This service is responsible for all the static and mobile out-patient clinics throughout the Island. Under the supervision of this service are also certain specialised out-patient clinics for the police, prisoners, and other special groups. A total of 2,161,042 patients were seen by the out-patient services and of these 574,518 were new cases. There was nearly 40 per cent increase over the figures for the previous year, compared with 24 per cent over 1957/1958. New out-patient clinics completed and functioning during the year were at Pegu Road and at Bukit Panjang. Plans for new clinics at Still Road and Jalan Kayu were completed.

65. The pressure for medical care in this service increased rapidly in the second half of the year and called for urgent attention. Extensions were carried out to the main out-patient unit at General Hospital and with improved physical arrangements and an effective deployment of medical staff, it was possible to cope with the increased pressure.

Opium Treatment Centre

66. This Centre which is situated on St. John's Island was established in 1955. It continued during the year when there were 489 patients admitted for treatment including 36 volunteer patients. The Opium Treatment Advisory Committee investigated 1,082 persons suspected of being addicts for suitable treatment.

67. The follow-up clinic for rehabilitation opium addicts enjoyed the confidence of discharged patients and 710 visits were made by discharged patients to this clinic.

BLOOD TRANSFUSION

68. In November a major campaign to get 12,000 blood donors in the register was launched. The campaign was carried out with the full awareness that the success of the Blood Bank in meeting the medical needs of the hospitals depended on extensive voluntary co-operation. It was a considerable and uphill task to break down old established prejudice regarding 'blood withdrawal'. Although the target figure was not achieved, in fact, over 7,000 persons were registered. The question of getting a satisfactory list of donors was a long-term one which would have to be sustained from time to time.

69. A total of 11,602 donations were received at the Blood Bank, of which only 2,836 came from relatives of patients. 11,299 transfusions were given during the year.

DENTAL SERVICE

70. The establishment of this section has posts for 42 dental officers; 39 of these posts are filled. The work of the section is divided into clinical dentistry and preventive dentistry.

71. Clinical Dentistry.—Dental care for special school children continued to be provided at the 2 central school dental clinics in the Institute of Health and at Tan Tock Seng Hospital. School children were also given systematic dental treatment at four dental clinics located at the schools. 3 mobile dental clinics provided treatment for several schools in the rural areas.

72. A new dental clinic for children was set up during May at Pulau Bukom, an off-shore island on which are situated the oil storage installations of the Shell Company.

73. In the Maternal and Child Health Service the number of dental clinics serving expectant and nursing mothers and their toddlers was increased with a new clinic at the Prinsep Street Maternity and Child Health Clinic. This new clinic was the first one established in the City area. Three dental clinics, located at the Sims Avenue Community Centre, Bouna Vista Community Centre and the Siglap Community Centre continued to provide treatment to under-privileged children attending some 12 Social Welfare Centres throughout the island.

74. Treatment was provided as before for the rank and file of the Singapore Police Force and the Royal Malayan Navy, and prisoners in Changi Prison. The three mobile dental clinics continued to extend treatment to children at the St. Andrew's Orthopædic Health, Boys Town, the Blind School and the Lee Kuo Chuan Salvation Army Nursery.

75. Preventive Dentistry.—Towards the end of 1957 the City Water Engineer announced the fact that the entire municipal water supply in Singapore had been successfully fluoridated, and therefore 1959 marked the second complete year of fluoridation in Singapore. During January and February the fourth annual dental survey in connection with the fluoridation scheme was carried out. This survey helps in assessing the efficacy of fluoridation in controlling tooth decay.

GOVERNMENT MEDICAL STORE

76. The Store dealt with over 8,000 requisitions during the year. Due to improvements in hospital facilities and increase in attendances at dispensaries and clinics the total value of drugs, pharmaceuticals, surgical dressings, instruments, ward equipment, etc. issued by the Store to all establishments rose to \$2,705,000. Of this about two-thirds represent drugs and pharmaceuticals, the balance being dressings, equipment and sundries. The organisation for central importing and distribution of these supplies operated smoothly throughout the year. In addition to these issues, raw materials and containers to the value of \$800,000 were issued from the Store to the pharmaceutical manufacturing laboratories in the same premises at Silat Road for conversion into manufactured pharmaceuticals.

77. In the pharmaceutical laboratories, another increase in overall production was achieved and the principal items in the output of pharmaceutical were:

Ampoules	...	...	593,000
Eyedrop/Eardrop Vials	...	...	69,000
Ointments	...	...	20,000 lb. and 87,000 tubes
Tablets	...	...	90 million
Transfusion Fluids	...	...	104,000 bottles

78. Modern special equipment and machinery, including Rotary Tablet Machines, Stills, Automatic Filling and Sealing Machines are used in the production of medicines.

79. It is proposed to expand production by another 50 per cent over the next five years. The aim is to pre-pack most items in standard containers ready for issue to patients. Issue of pre-packed medicines would cut down waiting time of patients at dispensaries. In addition to manufacturing activities, the Pharmaceutical Laboratory and Store acts as buying agents for the Ministry and handles orders for surgical equipment, furniture and laboratory chemicals for schools. The total value of items on order and in stock is estimated at \$2.5 million.

VOLUNTARY AND CHARITABLE INSTITUTIONS

St. Andrew's Mission Hospital

80. This hospital has 60 beds for children and during the year admitted 1,133 patients. Out-patients treated during the year was 51,062.

Kwong Wai Shiu Free Hospital

81. This hospital has 445 beds and during the year 1,198 patients were admitted. Out-patient attendances were 28,918.

Other Hospitals

82. Besides the Youngberg Memorial Hospital, the Hainanese Hospital and the Kheh Hospital provide limited beds and medical care facilities. The Red Cross Cripples Home and Cheshire Home provide care for a limited number of cases.

83. During the year, a new private hospital, the Gleneagles Hospital consisting of 90 beds was opened.

Royal Singapore Tuberculosis Clinic

84. The past year has been another busy year for this voluntary organisation. The clinic has no accommodation for in-patients and during the year a total of 293,593 out-patient attendances were recorded.

85. I append herewith a Table (Table 2) showing the number of professional officers available for work of the Ministry on 1st January, 1960.

I have the honour to be,

Sir,

Your obedient servant,

NG SEE YOOK,

L.M.S. (Singapore), D.P.H. (London),
Acting Director of Medical Services,
Singapore.

TABLE 2

TOTAL NUMBER OF OFFICERS AUTHORISED AND AVAILABLE
1ST JANUARY, 1960

	Estimates 1960	Permanent	Short contract and temporary	Gone or going on leave (Including study)	Total to be available
<i>A.—Administration</i>					
Director	1	1	..	..	1
Deputy Director	1	1	..	..	1
Deputy Secretary (Adminis- tration)	1	1	..	..	1
A.D.M.S. (Health)	1	1	..	..	1
A.D.M.S. (Hospitals)	1	1	..	..	1
A.D.M.S. (Tuberculosis)	1	1	..	..	1
Medical Superintendent, General Hospital	1	1	..	..	1
Medical Superintendent, Kandang Kerbau Hospital	1	1	..	..	1
Medical Superintendent, Tan Tock Seng's Hospital	1	1	..	..	1
Medical Superintendent, Woodbridge Hospital	1	1	..	..	1
Medical Superintendent, Trafalgar Home	1	1	..	..	1
Medical Superintendent, Thomson Road Chronic Hospital	1	1	..	..	1
Chief Dental Officer	1	1	..	..	1
Senior Medical Officer, Social Hygiene	1	..	1	..	1
Superintending Pharmaceuti- cal Chemist	1	1	..	..	1
Senior Pathologist	1	1	..	..	1
Senior Health Officer	1	1	..	..	1
Deputy Medical Superinten- dent Woodbridge Hospital	1	1	..	..	1
Medical Officer in-charge Out- patients Department	1	1	..	..	1
Health Officer i/c Schools	1	1	..	..	1
Health Officer i/c Maternal and Child Health Services (Rural)	1	1	..	..	1
Principal Matron	1	1	..	..	1
<i>B.—Hospitals Division</i>					
Specialist Officer, Grade 'E'	6	6	..	..	6
Specialist Officer, Grade 'G'	24	8	1	..	9
Medical Officer including Senior Registrars (excluding Housemen)	278	141	45	27	159
Housemen	50	26	..	..	26
Matrons	14	7	1	..	8
Sisters	187	49	49	2	96
Nurses*	1,050	780	130	6	904

* Excludes Assistant Nurses.

TABLE 2—*continued*

	Estimates 1960	Permanent	Short contract and temporary	Gone or going on leave (Including study)	Total to be available
<i>B.—Hospitals Division—contd.</i>					
Hospital Assistants ..	} 123	87	22	7	102
Dispensing Assistants ..					
Qualified Midwives* ..	149	29	51	..	80
Dental Officers (including Housemen) ..	41	25	6	3	28
Pharmaceutical Chemists ..	2	..	..	..	2
Pharmacists ..	26	14	2	1	15
Laboratory Assistants ..	106	86	4	4	86
Male Nurses Div. II ..	13	4	3	..	7
Nurses (Man) Div. III ..	198	128	3	..	131
<i>C.—Health Division</i>					
Health Officers ..	43	13	14	..	27
Health Education Officers ..	1	1	1	..	1
Public Health Engineer ..	1	1	1	..	1
Senior Public Health Ins- pectors ..	1	1	1	..	1
Public Health Inspectors ..	8	5	5	..	5
Matrons ..	2	1	1	..	2
Health Sisters ..	16	7	7	..	14
Staff Nurses ..	90	14	63	..	77
Hospital Assistants ..	9	8	4	..	12
Staff Midwives ..	104	48	37	..	85
Assistant Health Nurses ..	20	17	2	..	19

PART I
GENERAL

CHAPTER ONE

LEGISLATION

86. The programme of legislation was of a limited nature during the year. Much groundwork in the implementation of recent legislation was covered. Legislation introduced by other Ministries have had collateral benefits in respect of public health and these are also referred to in this review.

The Factories (Amendment) Ordinance, 1959

87. The Factories Ordinance, 1958 (No. 41 of 1958) was introduced by the Minister for Labour and Welfare and there has been consultation with this Ministry especially in regard to the provisions for the health and conditions of work in the factories.

88. The Factories (Amendment) Ordinance was passed in 1959 and this Amendment Ordinance extended the definition of factory to include certain premises in which less than ten persons are employed, if for example, mechanical power is used in such premises.

Nursing Homes and Maternity Registration Ordinance, 1959

89. The Ordinance provides for the registration, control and supervision of premises used for the reception of sick or convalescent persons and of premises used for the reception of pregnant women or of women immediately after childbirth. Maternity homes or nursing homes maintained by Government or a local authority or places licensed under local authority by-laws for the reception of sick or dying are exempt from the provisions of this Ordinance.

90. The power to register such homes is vested in the local authority with consequential powers of entry and inspection. Provision is made for the Minister to make regulations regarding the nature of records to be kept, the notification of births and deaths in the Home and the standards of siting, construction, accommodation, sanitation, water-supply, lighting, staffing and equipment. The Regulations were in preparation.

Midwives (Amendment) Ordinance

91. The Midwives (Amendment) Bill was finalised during 1958 and has since been tabled in the Legislative Assembly. It was approved by the Assembly in February 1959 and provides for improved operation of the Midwives Board to enable them to control and train midwives.

The City Council (Suspension and Transfer of Functions) Ordinance, 1959

92. This Ordinance introduced by the Minister for National Development provided that the City Council shall cease to be responsible for the local government of the City of Singapore and transferred the powers of the City Council to the Minister. In November 1959 in consequence of this legislation the responsibility for the health services of the City Council was transferred to the Minister for Health as the first step in the integration of health services in the State.

The Massage Establishments Ordinance, 1959

93. This Ordinance introduced by the Minister for Labour and Law provided for the licensing and control of establishments used for massage, baths or other similar treatment. Under this Ordinance provisions have been made for the proper hygiene and sanitation of such massage establishments.

SUBSIDIARY LEGISLATION

Food and Drug Regulations

94. The Food and Drugs Sub-committee of the Medical Advisory Council studied the operation of the revised Food and Drugs Regulations which were published in 1957 and have finalised recommendations to the Medical Advisory Council for a number of amendments—some of them involving major changes of policy regarding the control of certain foods for submission to the Minister for his consideration. These recommendations have since been approved by the Medical Advisory Council and submitted to the Minister.

CHAPTER TWO

STAFF WELFARE

95. During the course of 1958 the major problem which received the attention of both Government and the Staff Side was the re-organisation of the Medical Services, in particular, the re-organisation of Division II and Division III. The re-organisation of Division IV was tied up with the re-organisation of other departments and had already been completed. This re-organisation involved the preparation of schemes of service and the unifying of a multiplicity of salary scales on to four basic salary scales which had been accepted for the General Civil Service re-organisation. This work had reached its final stages by the end of 1958 and on 11th March, 1959 a Sessional Paper No. Cmd. 16 of 1959 was tabled before the Legislative Assembly and was approved.

96. The Personnel and Welfare Section of the Government Health Department continued to provide a Welfare Service for the daily rated labour force. The distribution of the labour force to the three future District Councils with the retention of a small nucleus for the work of the Central Health Office was done satisfactorily taking into account the personal problems involved in such transfers. A healthy relation between the official side and the labour force has been maintained. The financial position of the Government Health Department Labourers' Co-operative Credit Society Ltd. is given in Table 3.

TABLE 3

FINANCIAL SUMMARY OF GOVERNMENT HEALTH DEPARTMENT LABOURERS' CO-OPERATIVE CREDIT SOCIETY LTD.

		<i>Year ended 31st December.</i>	<i>Year ended 31st December,</i>
		<i>1958</i>	<i>1959</i>
Post Office Savings Bank	...	9,185 06	7,541 97
Chartered Bank	...	3,492 84	1,069 64
Cash in transit	...	2,111 65	1,776 10
Investments	...	50,256 25	50,256 25
Loans outstanding	...	8,373 00	8,485 50
Total Credit balance		73,418 80	69,129 46
Membership		200	209
Total staff eligible		1,224	1,232

97. The Annual Sports of the Singapore Medical Services was held in November. Woodbridge Hospital won the Challenge Shield.

98. Concerts, social activities and children's parties were held in various institutions during the year.

CHAPTER THREE

VITAL STATISTICS

99. The population estimates of Singapore by Racial group and sex are given in Table 4 and Table 5.

TABLE 4
POPULATION OF SINGAPORE, 1911-1959

Year	Malay-sians	Chinese	Indians and Pakis-tanis	Eura-sians	Euro-peans	Others	Total
1911 (Census) ..	41,806	219,577	27,755	4,671	5,711	3,801	303,321
1921 (Census) ..	53,595	315,151	32,314	5,346	6,145	5,717	418,358
1931 (Census) ..	65,014	418,640	50,811	6,903	8,082	8,295	557,745
1947 (Census) ..	113,803	729,473	68,967	9,110	9,279	7,512	938,144
1957 (Census) ..	197,060	1,090,595	124,084	11,382	10,826	11,982	1,445,929
1958 (Mid-Year) ..	207,300	1,141,800	129,500	11,100	12,100	12,500	1,514,900
1959	222,800	1,213,600	137,300	12,200	12,700	13,300	1,611,900

TABLE 5
POPULATION ESTIMATES OF SINGAPORE BY RACIAL GROUP AND SEX
FOR 1958 AND 1959
(In thousands)

Sex	Total	Malay-sians	Chinese	Indians and Pakis-tanis	Eura-sians	Euro-peans	Others
<i>30th June, 1958</i>							
Male	795.9	108.3	580.6	88.8	5.8	5.9	6.5
Female	718.0	98.9	561.2	40.7	5.9	5.4	5.8
Total	1,513.9	207.2	1,141.8	129.5	11.7	11.3	12.3
<i>31st December, 1958</i>							
Male	812.8	110.7	593.2	90.0	5.8	6.3	6.8
Female	734.7	101.4	573.9	41.8	6.0	5.6	6.0
Total	1,547.5	212.1	1,167.1	131.8	11.8	11.9	12.8

TABLE 5—continued

Year	Malay- sians	Chinese	Indians and Pakis- tanis	Eura- sians	Euro- peans	Others	Total
<i>30th June, 1959</i>							
Male	829.0	113.6	604.4	91.6	5.9	6.4	7.1
Female	750.6	103.7	585.6	43.0	6.1	5.8	6.2
Total ..	1,579.6	217.3	1,190.0	134.6	12.0	12.2	13.3
<i>31st December, 1959</i>							
Male	845.1	116.4	615.9	93.0	6.0	6.8	7.0
Female	766.8	106.4	597.7	44.3	6.2	5.9	6.3
Total ..	1,611.9	222.8	1,213.6	137.3	12.2	12.7	13.3

Notes:—

1. The Population Estimates exclude the following categories enumerated in the June 1957 Census:—

(a) Non-locally domiciled Services personnel (including United Kingdom-based civilians employed by the Services) and their families 27,299

(b) Transients Afloat 3,466

2. Births and deaths of persons within category 1 (a) are excluded from these estimates.
3. Births and deaths of persons within category 1 (b) are included in these estimates but the number of such is negligible.
4. Figures do not add up to total because of rounding up.

100. The ratio of females to males in 1931 was 584 to 1,000. At the 1947 Census it was 819 to 1,000. The ratio of females to males in the 1957 Census was 940 to 1,000; in 1958, this ratio was 902 to 1,000 and in 1959 the ratio is 907 to 1,000.

101. The number of birth in 1959 was 63,720, as compared with 63,572 in 1958, showing an increase of 148.

102. The crude birth rate in 1959 was 39.5 per thousand.

TABLE 6

LIVE-BIRTHS WHICH OCCURRED IN 1959

BY RACIAL GROUP AND AGE OF MOTHER AND BY SEX OF CHILD

Mothers Age in Years	TOTAL			MALAYSIANS		CHINESE		INDIANS AND PAKISTANIS		EURA- SIANS		EURO- PEANS		OTHERS	
	M. & F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
12	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
13	2	2	..	..	..	1	..	1	..	..	..	..	..	..	..
14	21	12	9	8	5	2	..	2	4	..	..	..	..	..	..
15	110	55	55	27	30	8	10	20	15	..	..	..	..	..	..
16	326	181	145	80	70	71	47	30	27	..	..	..	..	..	1
17	743	392	351	140	138	190	145	51	58	1	1	1	..	9	9
18	1,522	781	741	280	257	383	371	101	98	3	6	2	2	12	7
19	2,418	1,265	1,153	343	301	753	664	135	148	6	7	19	17	9	16
20	3,299	1,687	1,612	439	425	1,015	948	178	174	8	6	21	36	26	23
21	3,118	1,555	1,563	352	341	990	983	153	160	17	14	26	43	17	22
22	3,073	1,581	1,492	394	299	951	958	152	169	11	7	41	42	32	17
23	4,085	2,084	2,001	367	334	1,460	1,411	174	172	12	13	41	49	30	22
24	4,241	2,215	2,026	350	335	1,622	1,472	162	134	7	7	48	52	26	26
25	4,105	2,051	2,054	393	379	1,421	1,444	150	136	13	14	53	55	21	26
26	3,684	1,879	1,805	285	279	1,385	1,339	135	122	5	8	37	33	32	24
27	3,562	1,771	1,791	225	252	1,345	1,355	109	116	17	14	52	37	23	17
28	3,605	1,922	1,683	306	266	1,409	1,247	128	105	13	11	39	32	27	22
29	3,399	1,739	1,660	234	207	1,323	1,284	112	114	12	10	32	21	26	24
30	3,307	1,704	1,603	299	271	1,255	1,170	98	99	4	17	28	36	20	10
31	2,777	1,411	1,366	172	173	1,104	1,075	84	82	9	5	26	18	16	12
32	2,528	1,330	1,198	172	137	1,046	963	62	48	9	10	25	20	16	20
33	1,965	1,021	944	120	91	806	760	57	56	3	2	23	26	12	9
34	1,769	899	870	65	100	758	700	48	42	4	7	20	10	4	11
35	1,823	983	840	163	132	741	642	51	46	5	4	16	11	7	5
36	1,636	811	825	105	102	641	667	38	37	4	4	16	11	7	4
37	1,322	651	671	61	52	542	576	20	27	5	3	15	10	8	3
38	1,233	637	596	73	60	523	501	27	14	3	4	8	16	3	1
39	1,083	577	506	41	57	502	427	22	14	4	3	7	5	1	..
40	852	430	422	53	47	362	357	12	11	3	3	..	3	..	1
41	661	338	323	27	20	296	293	7	6	4	1	3	2	1	1
42	490	247	243	16	14	224	216	5	7	1	2	1	3	..	1
43	335	170	165	13	9	154	150	1	4	1	2	1	..	..	..
44	246	127	119	2	8	119	109	4	1	1	..	1	1	..	..
45	178	90	88	10	9	73	78	5	1	1	..	1	..	..	..
Over 45	188	106	82	8	11	96	70	2	1	..	..	..	..	..	..
Un- known	14	6	8	1	1	5	4	..	1	..	..	..	..	..	2
Total ..	63,720*	32,710	31,010	5,624	5,213	23,576	22,436	2,336	2,249	186	185	603	591	385	336

*Includes 1,256 live-births of wives of non-locally domiciled Service personnel (including United Kingdom based civilians employed by the Services).

TABLE 7
LIVE-BIRTHS WHICH OCCURRED IN 1959
BY RACIAL GROUP OF FATHER, REGISTRATION AREA AND SEX OF CHILD

Racial Group of Father	SINGAPORE TOTAL			CITY AREA			RURAL AREA		
	M. & F.	M.	F.	M. and F.	M.	F.	M. & F.	M.	F.
Malaysians	10,463	5,439	5,024	5,723	3,041	2,682	4,740	2,398	2,342
Chinese	45,799	23,464	22,335	36,766	18,831	17,935	9,033	4,633	4,400
Indians and Pakistanis	5,073	2,580	2,493	4,197	2,150	2,047	876	430	446
Eurasians	341	181	160	292	155	137	49	26	23
Europeans	1,269	634	635	882	444	438	387	190	197
Others	775	412	363	594	318	276	181	94	87
Total	63,720*	32,710	31,010	48,454	24,939	23,515	15,266	7,771	7,495

* Includes 1,256 live-birth (983 Europeans and 273 Others) of wives of non-locally domiciled Services personnel (including United Kingdom-based civilians employed by Services.)

TABLE 8

LIVE-BIRTHS WHICH OCCURRED IN 1959

BY PLACE OF USUAL RESIDENCE OF PARENTS, RACIAL GROUP OF FATHER AND SEX OF CHILD

Place of Usual Residence	Total			Malaysians		Chinese		Indians and Pakistanis		Eurasians		Europeans		Others	
	M. & F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
City ..	37,200	19,144	18,056	2,643	2,355	14,449	13,775	1,504	1,433	76	72	235	226	237	195
Katong ..	9,513	4,860	4,653	1,604	1,484	2,713	2,602	335	359	57	44	93	97	58	67
Serangoon ..	10,288	5,232	5,056	413	422	3,985	3,825	519	491	41	36	236	242	38	40
Bukit Panjang ..	3,100	1,609	1,491	246	244	1,175	1,057	163	160	3	4	18	19	4	7
Jurong ..	2,647	1,369	1,278	251	240	1,058	992	48	35	2	1	8	7	2	3
Southern Islands ..	794	411	383	271	265	63	66	6	6	2	2	6	3	63	41
Singapore Unspecified ..	1	..	1	..	..	..	..	..	1	..	..	..	..	..	..
Federation ..	169	82	87	11	14	19	15	5	8	..	1	37	39	10	10
Overseas ..	8	3	5	..	..	2	3	..	..	..	..	1	2	..	..
Total ..	63,720	32,710	31,010	5,439	5,024	23,464	22,335	2,580	2,493	181	160	634	635	412	363

Figures include live-births of wives of non-locally domiciled Services personnel.

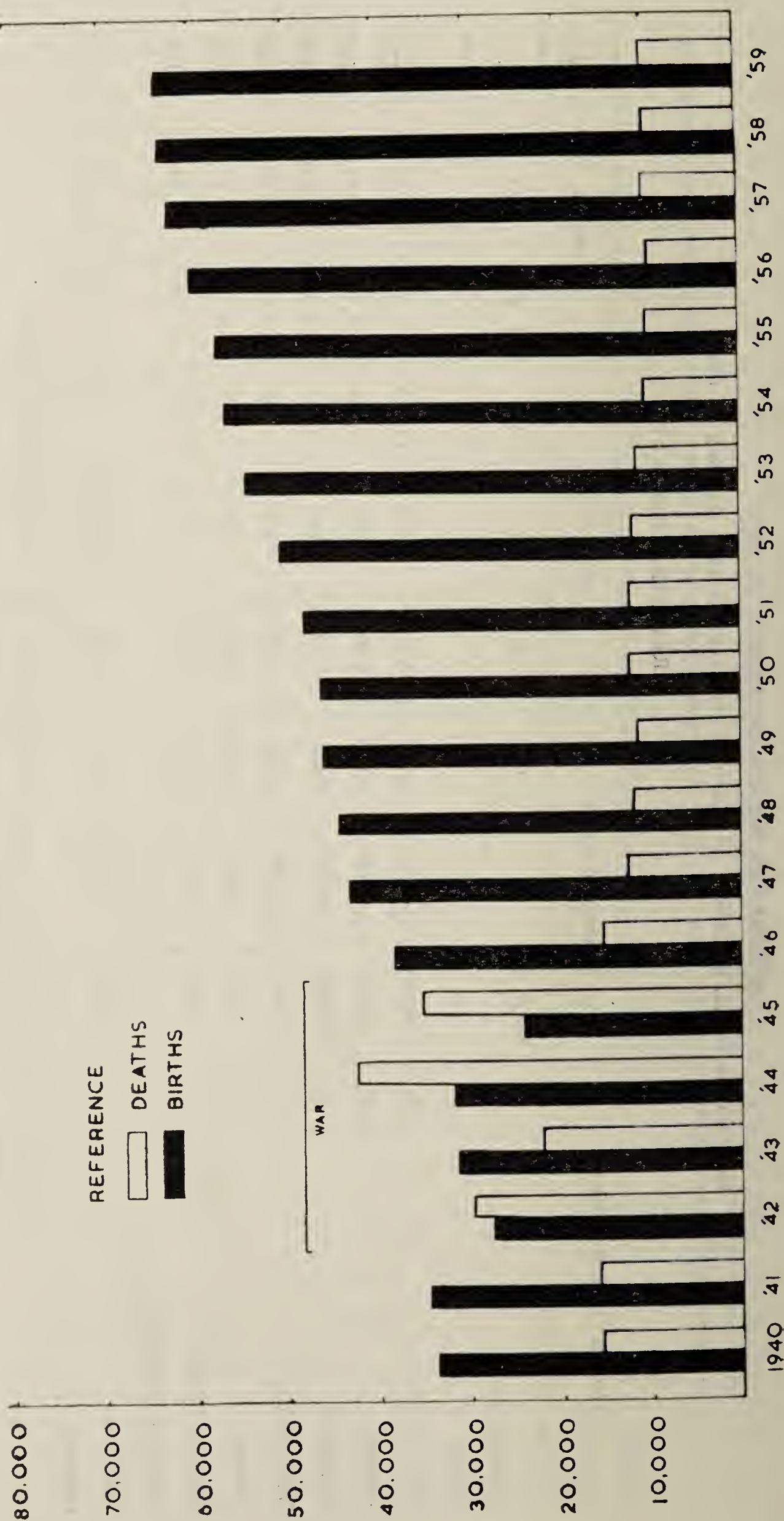
LIVE-BIRTHS WHICH OCCURRED IN 1959

BY PLACE OF USUAL RESIDENCE OF PARENTS, REGISTRATION AREA AND SEX OF CHILD

Place of Usual Residence	REGISTRATION AREA								
	SINGAPORE TOTAL			CITY AREA			RURAL AREA		
	M. & F.	M.	F.	M. & F.	M.	F.	M. & F.	M.	F.
City ..	37,200	19,144	18,056	36,952	19,017	17,935	248	127	121
Katong ..	9,513	4,860	4,653	3,801	1,947	1,854	5,712	2,913	2,799
Serangoon ..	10,288	5,232	5,056	4,935	2,554	2,381	5,353	2,678	2,675
Bukit Panjang ..	3,100	1,609	1,491	1,436	746	690	1,664	863	801
Jurong ..	2,647	1,369	1,278	1,048	536	512	1,599	833	766
Southern Islands ..	794	411	383	133	67	66	661	344	317
Singapore Unspecified ..	1	..	1	1	..	1	..	..	..
Federation ..	169	82	87	142	70	72	27	12	15
Overseas ..	8	3	5	6	2	4	2	1	1
Total ..	63,720	32,710	31,010	48,454	24,939	23,515	15,266	7,771	7,495

Figures include live-births of wives of non-locally domiciled Services personnel.

SINGAPORE
DIAGRAM TO SHOW TOTAL BIRTHS & DEATHS FOR PERIOD 1940 - 1959



SINGAPORE

TREND OF CRUDE BIRTH AND DEATH RATES: 1920 ONWARDS

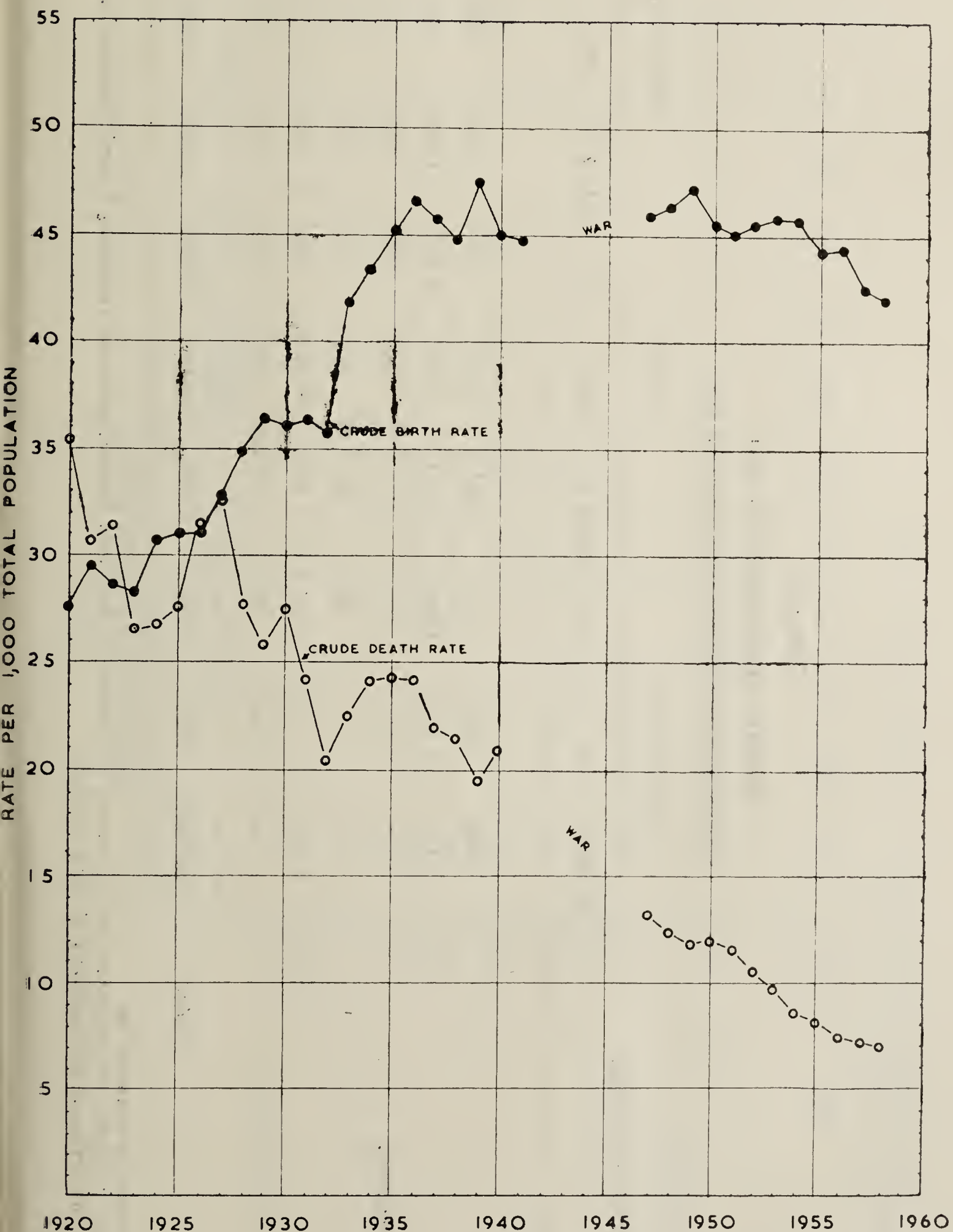


TABLE 10

DEATHS REGISTERED IN 1959

BY RACIAL GROUP, REGISTRATION AREA AND SEX

Racial Group	SINGAPORE TOTAL			CITY AREA			RURAL AREA		
	M. & F.	M.	F.	M. & F.	M.	F.	M. & F.	M.	F.
Malaysians	1,790	998	792	1,034	597	437	756	401	355
Chinese	7,431*	4,334	3,096	6,224*	3,678	2,545	1,207	656	551
Indians and Pakistanis	757	545	212	657	479	178	100	66	34
Eurasians	71	31	40	48	21	27	23	10	13
Europeans	101	67	34	82	56	26	19	11	8
Others	96	69	27	77	55	22	19	14	5
Total	10,246†	6,044	4,201	8,122*	4,886	3,235	2,124	1,158	966

* Includes one of unknown sex.

† Includes 71 deaths (59 Europeans and 12 others) of non-locally domiciled Services personnel (including United Kingdom-based civilians employed by the Services) and members of their families.

TABLE 11

DEATHS REGISTERED IN 1959

BY PLACE OF USUAL RESIDENCE, AND SEX RACIAL GROUP

Place of Usual Residence	Total			Malaysians		Chinese		Indians and Pakistanis		Eurasians		Europeans		Others	
	M. & F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
City ..	6,453*	3,880	2,572	494	359	2,918	2,039	377	125	12	16	37	15	42	18
Katong ..	1,579	864	715	310	280	466	380	56	29	8	12	10	7	14	7
Serangoon ..	1,292	766	531	75	51	585	426	80	34	10	11	10	8	6	1
Bukit Panjang ..	380	216	164	33	34	158	114	24	15	..	..	1	1	..	..
Jurong ..	313	183	130	32	25	145	99	4	5	..	..	2	1	..	..
Southern Islands ..	108	65	43	41	33	20	9	1	1	..	..	2	..	1	..
Singapore Unspecified ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Federation ..	103	59	44	12	10	39	28	3	3	1	1	1	1	3	1
Overseas ..	13	11	2	1	..	3	1	..	..	..	..	4	1	3	..
Total ..	10,246*	6,044	4,201	998	792	4,334	3,096	545	212	31	40	67	34	69	27

* Includes one of unknown sex (Chinese).

Figures include non-locally domiciled Services personnel and their families.

TABLE 12
DEATHS REGISTERED IN 1959
BY PLACE OF USUAL RESIDENCE, REGISTRATION AREA AND SEX

Place of Usual Residence	REGISTRATION AREA								
	SINGAPORE TOTAL			CITY AREA			RURAL AREA		
	M. & F.	M.	F.	M. & F.	M.	F.	M. & F.	M.	F.
City ..	6,453	3,880	2,572	6,395	3,840	2,554	58	40	18
Katong ..	1,579	864	715	615	373	242	964	491	473
Serangoon ..	1,297	766	531	652	400	252	645	366	279
Bukit Panjang ..	380	216	164	189	109	80	191	107	84
Jurong ..	313	183	130	133	79	54	180	104	76
Southern Islands ..	108	65	43	38	21	17	70	44	26
Singapore Unspecified ..	..	..	..	..	..	..	..	..	..
Federation ..	103	59	44	87	53	34	16	6	10
Overseas ..	13	11	2	13	11	2	..	..	..
Total ..	10,246*	6,044	4,201	8,122*	4,886	3,235	2,124	1,158	966

* Includes one of unknown sex.

Figures include non-locally domiciled Services personnel and their families.

TABLE 13
DEATHS REGISTERED IN 1959

BY RACIAL GROUP, AGE GROUP AND SEX

Age Group	Total			Malay- sians		Chinese		Indians and Pakis- tanis		Eura- sians		Euro- peans		Others	
	M. & F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Under 1 day	308	205	103	39	19	147	73	10	6	1	..	3	2	5	3
1 day and under 2 days	189	107	82	26	15	69	57	8	8	1	1	1	1	2	..
2 days and under 3 days	106	66	40	10	6	50	30	6	3	..	..	..	..	..	1
3 days and under 4 days	73*	40	32	14	7	23	19	1	4	..	..	1	1	1	1
4 days and under 5 days	59	34	25	11	4	21	17	2	2	..	..	..	2	..	..
5 days and under 6 days	40	21	19	2	7	16	12	3	..	..	..	..	..	..	..
6 days and under 7 days	42	26	16	8	4	17	11	1	1	..	..	..	..	..	..
7 days and under 14 days	135	74	61	16	21	53	35	4	3	..	..	..	2	1	..
14 days and under 21 days	89	49	40	17	13	26	23	6	3	..	..	..	1	..	..
21 days and under 28 days	55	40	15	16	1	21	13	3	1	..	..	..	..	..	..
Neo-Natal Deaths	1,096*	662	433	159	97	443	290	44	31	2	1	5	9	9	5
28 days and under 2 months	221	133	88	60	26	65	52	6	7	..	..	1	2	1	1
2 months and under 3 months	168	87	81	34	32	42	43	8	5	1	..	..	..	2	1
3 months and under 4 months	122	75	47	35	18	34	26	5	2	..	..	..	1	1	..
4 months and under 5 months	109	59	50	24	16	31	29	3	3	..	..	1	1	..	1
5 months and under 6 months	102	48	54	20	18	24	34	2	2	..	..	2	..	..	..
6 months and under 7 months	94	63	31	25	11	33	16	4	4	..	..	..	..	1	..
7 months and under 8 months	80	46	34	16	13	24	18	5	3	..	..	..	..	1	..
8 months and under 9 months	102	52	50	27	19	23	29	2	2	..	..	..	..	..	..
9 months and under 10 months	72	39	33	16	11	21	18	2	3	..	..	..	..	..	1
10 months and under 11 months	62	38	24	17	6	17	17	3	1	..	..	..	..	1	..
11 months and under 1 year	50	25	25	11	11	13	11	1	3	..	..	..	..	..	..
Infant Mortality†	2,278*	1,327	950	444	278	770	583	85	66	3	1	9	13	16	9
Under 1 year	2,278*	1,327	950	444	278	770	583	85	66	3	1	9	13	16	9
1 year and under 2 years	398	199	199	68	57	118	127	11	14	..	..	..	1	2	..
2 years and under 3 years	231	124	107	35	29	78	75	9	3	..	..	..	..	2	..
3 years and under 4 years	134	63	71	12	15	45	47	5	7	..	1	..	1	1	..
4 years and under 5 years	89	45	44	12	13	28	26	2	4	1	..	..	..	2	1
5—9 years	237	128	109	28	19	88	84	6	5	..	..	4	..	2	1
10—14 years	126	74	52	10	11	58	38	4	1	..	1	2	1	..	..
15—19 years	128	78	50	14	12	56	34	5	2	..	..	3	2	..	..
20—24 years	183	114	69	7	11	83	49	11	7	2	1	10	1	1	..
25—29 years	193	110	83	14	20	79	53	8	8	1	1	7	..	1	1
30—34 years	234	119	115	19	27	74	70	21	12	..	2	2	4	3	..
35—39 years	302	180	122	26	30	114	77	36	12	..	1	2	1	2	1
40—44 years	343	221	122	18	26	143	84	52	12	1	..	4	..	3	..
45—49 years	603	418	185	37	23	309	146	64	11	2	2	5	2	1	1
50—54 years	694	465	229	36	43	361	176	58	7	1	2	3	1	6	..
55—59 years	847	608	239	54	26	466	193	68	14	3	4	6	..	11	2
60—64 years	899	586	313	53	37	475	259	49	7	4	7	4	1	1	2
65—69 years	752	471	281	43	31	389	232	26	8	5	5	3	4	5	1
70—74 years	619	338	281	26	27	291	244	10	3	5	2	1	4	2	2
75—79 years	471	228	243	19	20	193	216	11	4	..	2	..	1	5	..
80—84 years	281	86	195	10	19	71	168	2	2	2	4	1	..	..	2
85 years and over	194	57	137	11	18	44	112	1	3	1	2	..	..	..	2
Unknown	10	5	5	2	..	1	3	1	..	..	..	..	..	1	2
Total	*‡10,246	6,044	4,201	998	792	4,334	3,096	545	212	31	40	67	34	69	27

* Includes one of unknown sex (Chinese).

† Includes neo-natal deaths.

‡ Includes 71 deaths (59 Europeans and 12 others) of non-locally domiciled Services personnel (including United Kingdom-based civilians employed by the Services) and members of their families.

TABLE 14
DEATHS REGISTERED IN 1959

BY REGISTRATION AREA, AGE GROUP AND SEX

Age Group	Singapore Total			City Area			Rural Area		
	M.&F.	M.	F.	M.&F.	M.	F.	M.&F.	M.	F.
Under 1 day ..	308	205	103	273	180	93	35	25	10
1 day and under 2 days ..	189	107	82	173	94	79	16	13	3
2 days and under 3 days ..	106	66	40	100	64	36	6	2	4
3 days and under 4 days ..	73*	40	32	64*	33	30	9	7	2
4 days and under 5 days ..	59	34	25	53	31	22	6	3	3
5 days and under 6 days ..	40	21	19	37	20	17	3	1	2
6 days and under 7 days ..	42	26	16	32	21	11	10	5	5
7 days and under 14 days ..	135	74	61	106	63	43	29	11	18
14 days and under 21 days ..	89	49	40	70	36	34	19	13	6
21 days and under 28 days ..	55	40	15	43	30	13	12	10	2
Neo-Natal Deaths ..	1,096*	662	433	951*	572	378	145	90	55
28 days and under 2 months ..	221	135	88	157	95	62	64	38	26
2 months and under 3 months ..	168	87	81	131	72	59	37	15	22
3 months and under 4 months ..	122	75	47	86	50	36	36	25	11
4 months and under 5 months ..	109	59	50	78	43	35	31	16	15
5 months and under 6 months ..	102	48	54	71	30	41	31	18	13
6 months and under 7 months ..	94	63	31	74	48	26	20	15	5
7 months and under 8 months ..	80	46	34	60	35	25	20	11	9
8 months and under 9 months ..	102	52	50	71	35	36	31	17	14
9 months and under 10 months ..	72	39	33	49	24	25	23	15	8
10 months and under 11 months ..	62	38	24	46	25	21	16	13	3
11 months and under 1 year ..	50	25	25	36	20	16	14	5	9
Infant Mortality† ..	2,278*	1,327	950	1,810*	1,049	760	468	278	190
Under 1 year ..	2,278*	1,327	950	1,810*	1,049	760	468	278	190
1 year and under 2 years ..	398	199	199	281	134	147	117	65	52
2 years and under 3 years ..	231	124	107	188	96	92	43	28	15
3 years and under 4 years ..	134	63	71	112	54	58	22	9	13
4 years and under 5 years ..	89	45	44	70	38	32	19	7	12
5—9 years ..	237	128	109	199	106	93	38	22	16
10—14 years ..	126	74	52	102	60	42	24	14	10
15—19 years ..	128	78	50	111	71	40	17	7	10
20—24 years ..	183	114	69	164	106	58	19	8	11
25—29 years ..	193	110	83	168	100	68	25	10	15
30—34 years ..	234	119	115	207	110	97	27	9	18
35—39 years ..	302	180	122	268	161	107	34	19	15
40—44 years ..	343	221	122	290	196	94	53	25	28
45—49 years ..	603	418	185	510	361	149	93	57	36
50—54 years ..	694	465	229	592	415	177	102	50	52
55—59 years ..	847	608	239	706	520	186	141	88	53
60—64 years ..	899	586	313	693	465	228	206	121	85
65—69 years ..	752	471	281	568	348	220	184	123	61
70—74 years ..	619	338	281	438	239	199	181	99	82
75—79 years ..	471	228	243	326	160	166	145	68	77
80—84 years ..	281	86	195	187	57	130	94	29	65
85 years and over ..	194	57	137	122	35	87	72	22	50
Unknown ..	10	5	5	10	5	5	..	..	..
Total ..	10,246*†	6,044	4,201	8,122*	4,886	3,235	2,124	1,158	966

*Includes one of unknown sex.

†Includes neo-natal deaths.

‡Includes 71 deaths of non-locally domiciled Services personnel (including United Kingdom-based civilians employed by the Services) and members of their families.

TABLE 15

LIVE-BIRTHS AND CRUDE BIRTH RATES, FOR 1949 AND 1959

BY RACIAL GROUP

Racial Group	1949		1959	
	Number	Rate*	Number	Rate*
Malaysians	5,709	47.7	10,463	48.1
Chinese	36,322	47.7	45,799	38.5
Indians and Pakistanis ..	3,041	43.0	5,073	37.7
Eurasians	368	38.7	341	28.3
Europeans	357	10.1	286	23.4
Others	372	49.6	502	37.6
Total ..	46,169	47.2	62,464	39.5

* Number of live-births per 1,000 mid-year population.

Notes:—

(i) Figures for 1949 *include* live-births of wives of non-locally domiciled Services personnel (including United Kingdom-based civilians employed by the Services);

(ii) Figures for 1959 *exclude* 1,256 live-births (983 Europeans and 273 Others) of wives of non-locally domiciled Services personnel (including United Kingdom-based civilians employed by the Services).

TABLE 16

DEATHS AND CRUDE DEATH RATES, FOR 1949 AND 1959

BY RACIAL GROUP

Racial Group	1949		1959	
	Number	Rate*	Number	Rate*
Malaysians	1,861	15.6	1,790	8.2
Chinese	8,740	11.5	7,431	6.2
Indians and Pakistanis ..	767	10.8	757	5.6
Eurasians	78	8.2	71	5.9
Europeans	65	1.8	42	3.4
Others	110	14.7	84	6.3
Total ..	11,621	11.9	10,175	6.4

* Number of deaths per 1,000 mid-year population.

Notes:—

(i) Figures for 1949 *include* deaths of non-locally domiciled Services personnel (including United Kingdom-based civilians employed by the Services) and members of their families;

(ii) Figures for 1959 *exclude* 71 deaths (59 Europeans and 12 Others) of non-locally domiciled Services personnel (including United Kingdom-based civilians employed by the Services) and members of their families.

TABLE 17
INFANT MORTALITY AND INFANT MORTALITY RATES FOR 1957, 1958
AND 1959

BY RACIAL GROUP

Racial Group	1957		1958		1959	
	Number	Rate*	Number	Rate*	Number	Rate*
Malaysians	805	86.4	855	85.5	722	69.0
Chinese	1,520	32.9	1,630	35.3	1,354	29.6
Indians and Pakistanis ..	200	39.8	206	40.3	151	29.8
Eurasians	10	27.8	16	44.2	4	11.7
Europeans	3	8.5	5	14.8	3	10.5
Others	19	43.0	21	43.3	15	29.9
Total ..	2,557	41.4	2,733	43.7	2,249	36.0

* Number of deaths under 1 year of age per 1,000 live-births.

Note:—The above figures *exclude* 20 (17 Europeans and 3 Others), 28 (23 Europeans and 5 Others) and 29 (19 Europeans and 10 Others) deaths of children under 1 year of age of non-locally domiciled Services personnel (including United Kingdom-based civilians employed by the Services) for the years 1957, 1958 and 1959 respectively.

TABLE 18
STILL-BIRTHS AND STILL-BIRTH RATES FOR 1957, 1958 AND 1959

Year	Number	Rate*
1957	968	15.4
1958	965	15.2
1959	862	13.6

* Number of still-births per 1,000 total live-births and still-births.

Note:—The figures for 1957, 1958 and 1959 *exclude* 2, 13 and 19 still-births respectively of wives of non-locally domiciled Services personnel (including United Kingdom-based civilians employed by the Services).

TABLE 19
MATERNAL MORTALITY AND MATERNAL MORTALITY RATES
FOR 1957, 1958 AND 1959

Year	Number	Rate*
1957	55	0.9
1958	50	0.8
1959	45	0.7

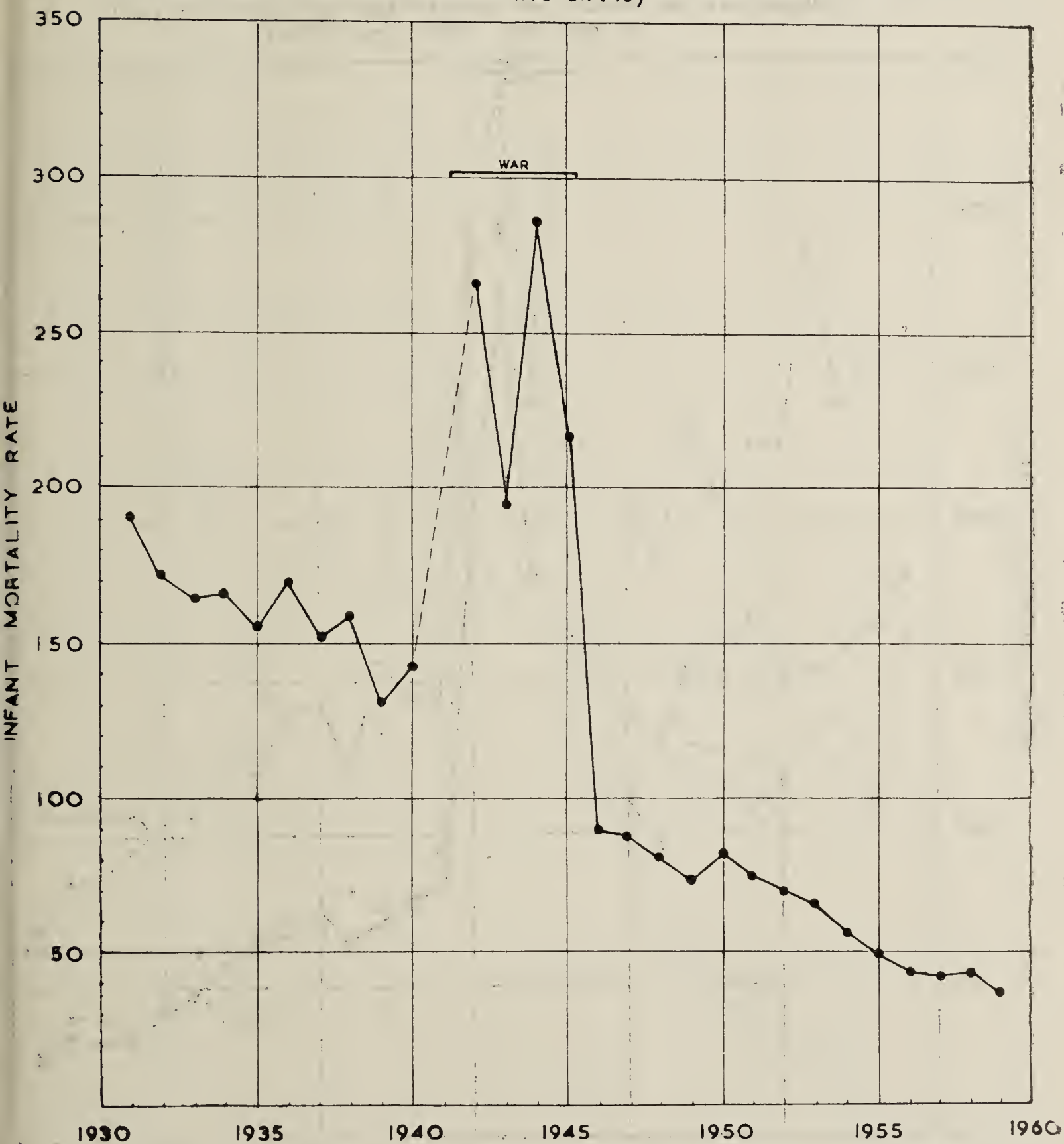
* Number of maternal deaths per 1,000 total live-births and still-births.

Note:—There were no maternal deaths among the families of non-locally domiciled Services personnel (including United Kingdom-based civilians employed by the Services) for the years 1957, 1958 and 1959.

SINGAPORE

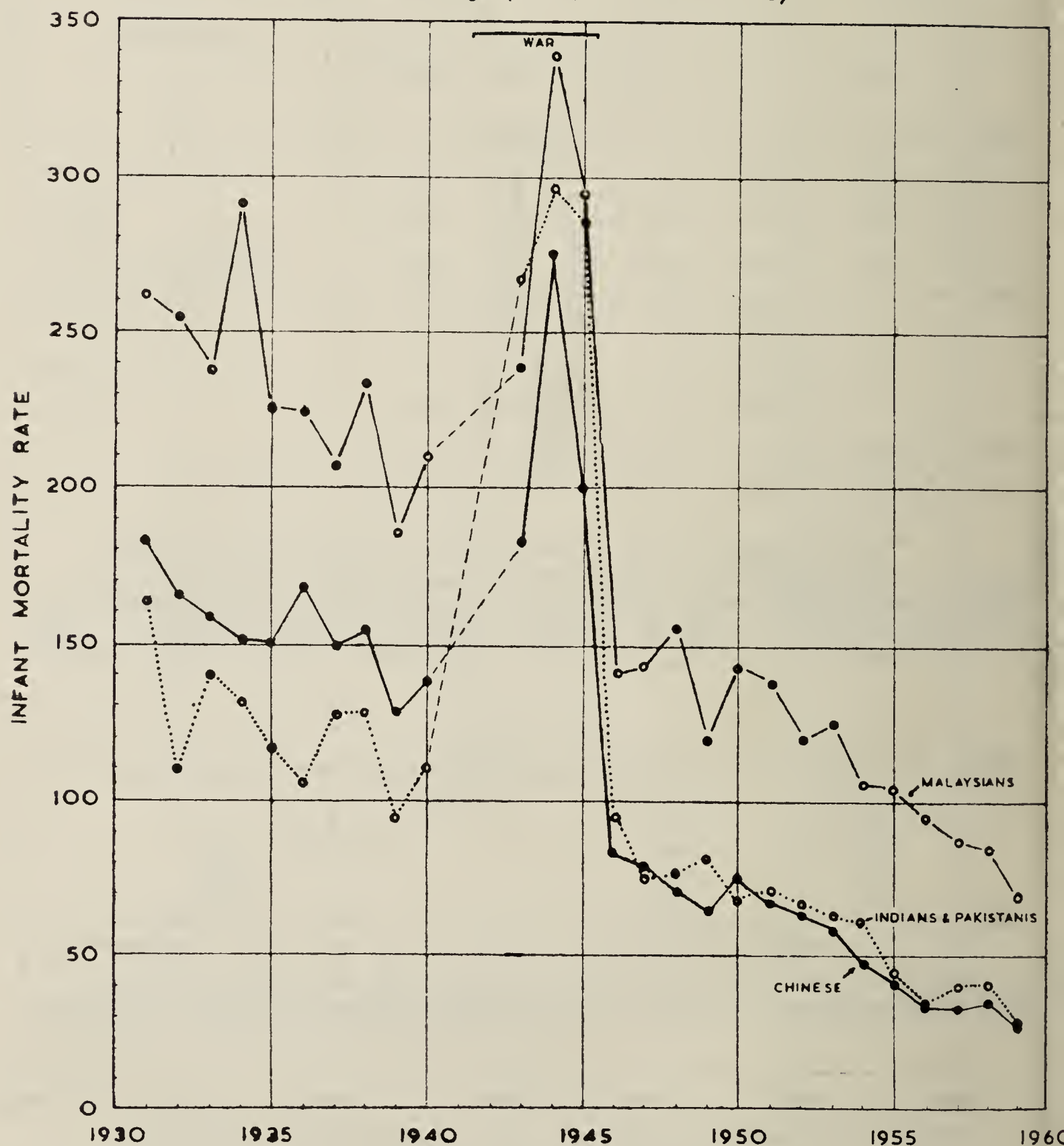
TREND OF INFANT MORTALITY RATE: 1931 ONWARDS

(Rates are the number of deaths reported under one year of age per 1,000 live births).



SINGAPORE INFANT MORTALITY RATES BY ETHNIC GROUP (RACE): 1931 ONWARDS

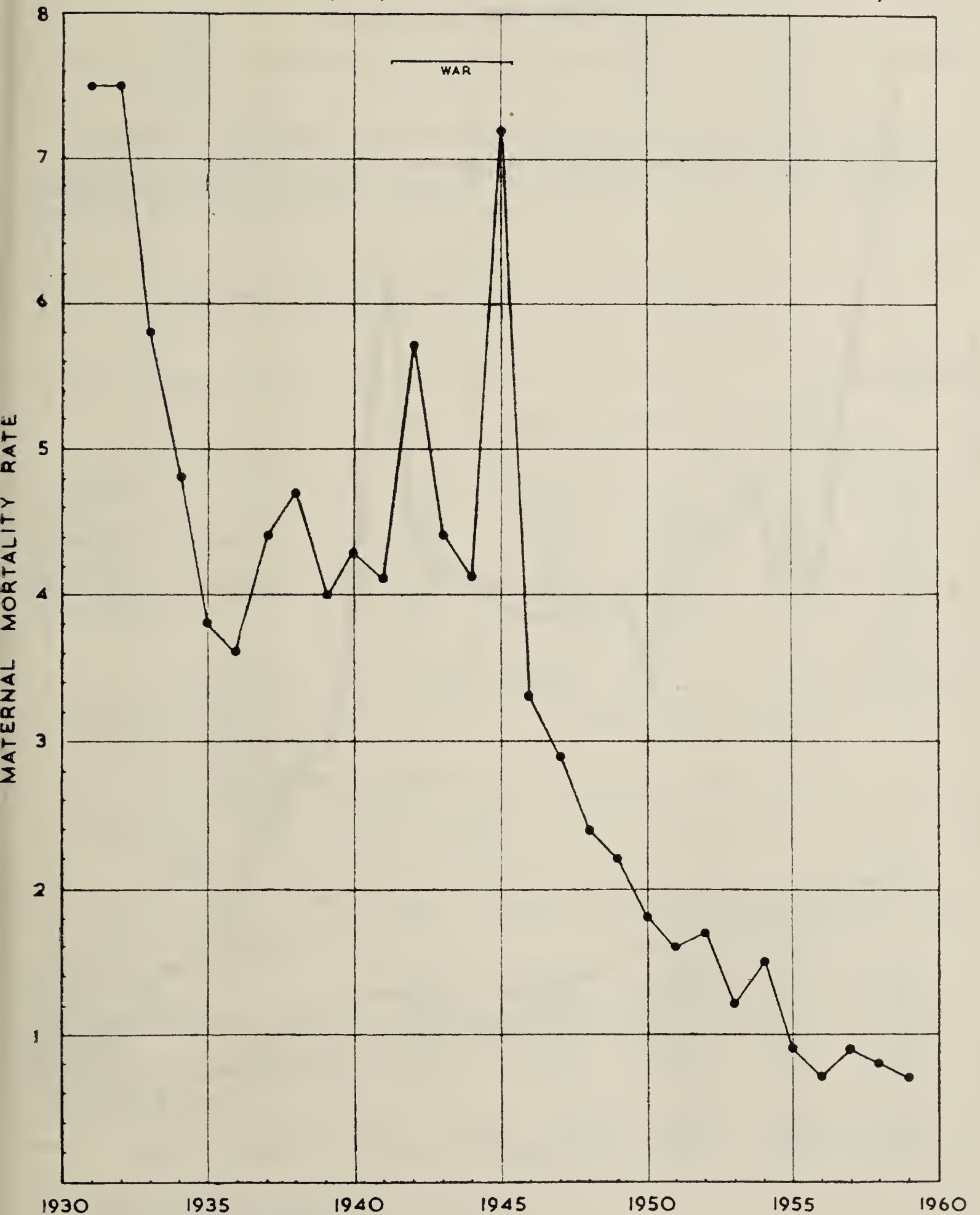
(Rates are the number of deaths reported under one year of age per 1,000 live births).



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TREND OF MATERNAL MORTALITY RATE: 1931 ONWARDS

(Rates are the number of deaths due to deliveries and complications of pregnancy, child-birth and the puerperium per 1,000 total live and still births)



TREND OF TUBERCULOSIS DEATH RATES: 1920 ONWARDS (Singapore and certain other countries)

(Rates are the number of deaths reported from tuberculosis (all forms) per 100,000 total population).

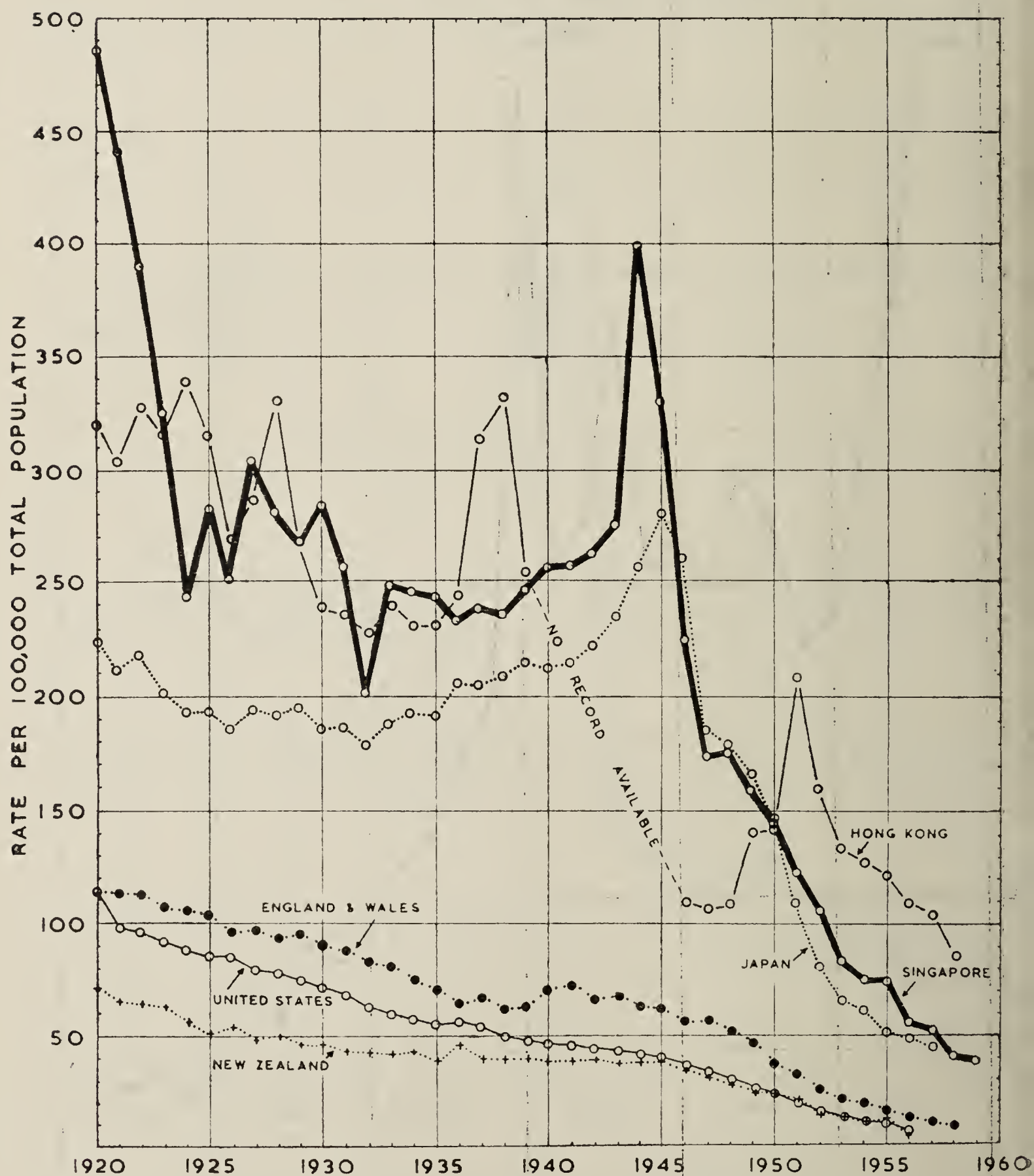


TABLE 20

DEATHS FROM TUBERCULOSIS (ALL FORMS) AND TUBERCULOSIS DEATH RATES FOR 1956, 1957, 1958 AND 1959

Year				Number	Rate*
1956	...	...	...	784	57.16
1957	...	...	...	751	51.94
1958	...	...	...	624	41.22
1959	...	...	...	628	39.76

* Number of tuberculosis (all forms) deaths per 100,000 mid-year population.

Note:—Tuberculosis deaths of non-locally domiciled Services personnel (including United Kingdom-based civilians employed by the Services) and members of their families, if any, are included in the above figures.

TABLE 21

(a) ARRIVALS OF PASSENGERS BY SEA AND AIR DURING 1959

Race	ADULTS		CHILDREN*		Total
	Male	Female	Male	Female	
Malaysians	8,339	3,399	779	625	13,142
Chinese	19,262	10,568	2,424	1,624	33,878
Indians and Pakistanis ..	11,780	2,904	1,481	933	17,098
Eurasians	179	132	56	48	415
Europeans and Americans ..	36,360	17,233	3,447	2,456	59,496
Other Races	4,942	914	236	182	6,274
Total Races ..	80,862	35,150	8,423	5,868	130,303

* Under 12 years of age.

(b) DEPARTURES OF PASSENGERS BY SEA AND AIR DURING 1959

Race	ADULTS		CHILDREN*		Total
	Male	Female	Male	Female	
Malaysians	9,776	3,843	709	593	14,921
Chinese	18,733	7,800	1,093	758	28,384
Indians and Pakistanis ..	21,073	4,077	2,019	1,525	28,694
Eurasians	247	146	71	48	512
Europeans and Americans ..	35,881	17,835	3,498	2,655	59,869
Other Races	5,767	987	216	185	7,155
Total—All Races ..	91,477	34,688	7,606	5,764	139,535

* Under 12 years of age.

Notes:—

(i) Figures in the above table exclude movements of persons between Singapore and the Federation of Malaya.

(ii) Figures of arrivals and departures of passengers in and from Singapore include arrivals and departures of permanent residents, visitors, immigrants and emigrants.

PART II
THE HEALTH DIVISION

CHAPTER FOUR

PUBLIC HEALTH DIVISION

103. The State of Singapore comprises the main Island of Singapore with several small surrounding islands. The main island is 27 miles long and 14 miles wide with a land area of 216 square miles. The area of the smaller islands is about 10 square miles.

104. There are two local authorities: the City Council and the Rural Board. The City Council administers a very thickly populated area of 31 square miles and is responsible for all environmental and some personal health services. The rest of the area is under the jurisdiction of the Rural Board and the Government Health Division under the direction of the Director of Medical Services who is responsible through District Health Officers for all environmental health services in this area. The School Health and Curative Medical Services are on an island-wide basis.

105. During the year changes in local government policy was enunciated by the new Government taking office in June. This involved the integration of local authority which functions within Central Government Ministries. One of the direct results of this will be the need to effect a smooth integration of the City Council and Rural Board Health Departments with the Health Division of the Ministry. Plans for this were discussed towards the end of the year but the process of integration will be a long-term one spread over the next two years.

106. In the report for 1958 reference was made to maintain close co-ordination between the Central health authorities and local authority health services because disease knows no artificial barriers and Singapore is a single entity so far as any public health programme is concerned.

HEALTH SERVICES

107. The programme of rural sanitation started in 1954 continued. Work was carried out in 44 Kampongs and full use was made of the relief labour force provided. The method of obtaining active co-operation of kampong dwellers through their active participation and co-operation in schemes of rural sanitation has paid dividends.

Training of Health personnel

108. The second local Course for the training of Public Health Nurses commenced in April 1959. 14 students are attending the Course and will take their qualifying examination for the Health Visitor's Certificate in April 1960.

109. Another Course of training for Public Health Inspectors commenced in January 1959; 39 of the 44 candidates who appeared for the Royal Society of Health Diploma for Public Health Inspectors were successful in the Final Examination in November 1959.

Health Education

110. During the course of the year the Singapore Health Education Council transferred its activities to the Ministry of Health. The Government gave considerable emphasis to health education as a powerful public health measure and the Health Division studied ways and means of operating a

health education programme to reach the masses. Methods and media in use in more literate communities of the West require extensive adaptation to make the necessary impact upon the people; adaptation to suit the multi-cultural background and the need to reach people in four linguistic streams need careful planning. The Health Education Section participated in a number of programmes of the "Campaign" type; in addition, it carried out health education among health workers and patients attending health centres.

School Medical Service

111. The school population and the total enrolment for all schools at the end of 1959 was 320,977 as compared with 295,481 at the end of 1958. Out of a total 620 Government and Government-aided schools, 597 were visited by School health officers and approximately 124,250 or approximately 33 per cent of the school population were examined. The attendance of children at School Clinics was 103,734 as compared with 95,106 in 1958, an increase of over 8 per cent. The part-time B.C.G. team visited schools regularly. Further improvement was seen in the environmental hygiene of schools. Distinct improvements in canteen arrangements and in washing facilities have been reported in many cases.

Maternal and Child Health Service

112. The first step towards an integrated island-wide Maternal and Child Health Service was taken with the appointment in the latter part of the year of a senior and experienced City Council officer as head of this Service. A complete survey was carried out of the Service in the City and Rural Areas as a basis for re-organisation of the Service. Plans for the five-year development of the Service were formulated during the year.

113. At the end of 1959, Maternal and Child Health Service was provided in 20 main Clinics, 8 Midwife Centres and 21 Visiting Centres in the Rural Areas; 7 Clinics provided a service in the City Area.

114. The general standard of services offered during the year remained high, despite staff shortage. Kampong Midwife Centres are rapidly increasing in popularity. The drive to immunise the child population continued. The mobile immunisation van visited kampongs to cover children who had not attended clinics. Plans for compulsory immunisation against diphtheria were formulated in the light of Government's policy to introduce legislation for this purpose. B.C.G. vaccination is now available at all Maternal and Child Health Centres.

Quarantine Service

115. With its unique central geographical position, large numbers of passengers, ships and air crews pass through Singapore from neighbouring infected countries. Its Quarantine Service, consisting of the marine port health service, airport health service and Quarantine Station, constitutes an essential bastion against the introduction of disease from outside.

116. A minor localised outbreak of 9 local secondary cases of small-pox with 2 deaths occurred in April 1959 as a result of a primary case in a passenger from India.

	1957	1958	1959
Ships arriving from infected or suspected ports	1,519	2,030	2,206
Sea passengers inspected	101,182	136,226	168,914
Aircraft arriving from infected or suspected ports	1,707	2,438	2,188
Air passengers and crews inspected	82,166	94,718	94,878
Passengers quarantined	24,175	14,421	12,479

Environmental Health

117. The main feature of the work during the year was the maintenance of existing health services at a high level with further extension of these services to meet the progressive population increase.

118. With nearly 40 per cent of the population living in the Rural areas and a large number of housing estates and population centres growing up, urban standards are being enforced in such developed areas.

119. No case of malaria of indigenous origin has been reported in any part of Singapore. The programme of *Aedes* mosquito control around the International Airport as a principal measure of yellow fever control extends over an area of more than 6 square miles. The *A. ægypti* index has been 0 and the *A. albopictus* index ranged from 0.8 per cent to 1.6 per cent in surveys done during the year.

“Barley Poisoning”

120. In September 1959, 35 cases with 9 deaths occurred due to “barley” food poisoning. Investigations carried out revealed the presence of parathion, an organo-phosphate insecticide, in a certain consignment of barley. The co-ordination of measure taken by the hospitals and health authorities working in co-ordination with the analysts resulted in effective control of the outbreak. All stocks of barley from this consignment were sealed and subsequently destroyed. A fuller report appears in a later chapter.

121. In many ways, the year 1959 was one of re-organisation for the preventive health services. This re-organisation will be a long-term objective. The Government’s Health Programme lays emphasis on the preventive health services. In the past, sufficient emphasis has not been placed on the prevention of disease and the promotion of health.

122. Dr. K. Sivam, L.M.S. (Singapore), D.P.H. (Liverpool) was the Assistant Director of Medical Services (Health) and in charge of the Health Branch until September 1959. He proceeded on leave and Dr. K. Kanagaratnam, M.B.B.S. (Malaya), D.P.H. (Malaya) acted in this post since that date.

INFECTIOUS DISEASES IN RURAL SINGAPORE

123. No case of cholera or plague occurred in the year under review. The number of cases of infectious diseases notified from the Rural Areas is given in Table 22.

TABLE 22

INFECTIOUS DISEASES IN RURAL SINGAPORE		1955	1956	1957	1958	1959
Chicken-pox	...	414	447	350	175	382
Pulmonary Tuberculosis	...	610	654	385	342	1,228
Diphtheria	...	119	114	159	158	98
Leprosy	...	39	31	30	21	26
Puerperal Fever	...	24	24	4	5	15
Enteric Fever	...	44	25	33	31	57
Acute Anterior Poliomyelitis		15	20	17	148	34

Pulmonary Tuberculosis

124. Notification of pulmonary tuberculosis was made to the Assistant Director of Medical Services (Tuberculosis) in 1959. The establishment of the Tuberculosis Control Unit has apparently increased the number of notifications over the previous years.

Diphtheria

125. There were 98 cases in 1959 as compared with 158 in 1958. The programme of immunisation in the Maternal and Child Health Clinics, in schools and in kampongs continued with very satisfactory response except for a break in April when the small-pox epidemic occurred.

Enteric Fever

126. The occurrence of sporadic cases from isolated areas was the main feature of this disease during 1959. No localised outbreaks took place.

Leprosy

127. The progressive decline in the cases of this disease over the past five years confirms the view that it is being brought under control.

Poliomyelitis

128. The 1958 poliomyelitis epidemic tailed off towards the end of the year and in 1959 sporadic cases occurred.

Small-pox

129. In 1959 an outbreak of small-pox occurred in the City Area (Alexandra District) in April. The source of this outbreak was traced to a 10-year old Indian boy from India who disembarked at Penang on 15th March, 1959 from the vessel "State of Madras". This boy was in possession of a valid certificate of vaccination against small-pox. He arrived in Singapore by train on 17th March, 1959 with a temperature and skin rash. He did not seek

any medical attention and was not discovered until 4 weeks later following the admission of a secondary case of small-pox to the British Military Hospital from the Alexandra District. Prompt action was taken by the City Council and Government Health Departments and a total of 10 cases were discovered; 2 deaths occurred.

130. The Health Department immediately instituted a mass vaccination campaign in which 999,880 persons were vaccinated. All the contacts of these cases were sent to the Quarantine Station at St. John's Island for isolation and observation. The outbreak fortunately was confined to the Alexandra District area. Restrictions imposed during the epidemic were lifted on 30th May, 1959.

CHAPTER FIVE

HYGIENE AND SANITATION IN RURAL AREAS

131. The Rural Health Division has been responsible for Hygiene and Sanitation in the Rural areas of Singapore including the islands around the State.

132. 1959 saw the administrative set-up of 3 District Councils.

133. The Staff of the 3 District Councils as on 31st December, 1959 is given in Table 23.

TABLE 23

STAFF OF THE RURAL HEALTH SECTION

	<i>Central Government</i>	<i>Bukit Panjang</i>	<i>Serangoon</i>	<i>Katong</i>	<i>Total</i>
Rural Health Officer ...	1	1	1	1	4
Public Health Engineer ...	1	—	—	—	1
Supervisor of Public Health Works	—	1	1	1	3
Chief Sanitary Inspector ...	1	—	—	—	1
Senior Sanitary Inspector ...	1	1	1	1	4
Sanitary Inspectors, Timescale ...	4	3	4	3	14
Probationer Sanitary Inspectors ...	—	2	3	3	8
Senior Technical Subordinates ...	2	—	1	1	4
Technical Subordinates ...	6	6	7	7	26
Market Inspector/Overseer ...	—	2	4	1	7
Piggery Overseer ...	—	—	1	1	2

134. In 1959 the Cleansing Section was decentralised and integrated with the Health Department under the District Councils Health Officers.

TABLE 24

	<i>Bukit Panjang</i>	<i>Serangoon</i>	<i>Katong</i>	<i>Total</i>
Senior Cleansing Inspectors ...	1	1	1	3
Cleansing Inspectors ...	3	3	3	9
Technical Subordinates ...	3	2	3	8
Overseers ...	5	8	11	24

135. The Sanitary staff of the Rural Health Branch in the various districts has been concerned with anti-malarial control (oiling and drainage), water supplies, inspection of houses and housing sites, water-borne system of sewerage disposal, food inspection, occupational health, village sanitation and control of infectious disease. The staff of the Cleansing Section is responsible for scavenging and conservancy services in the rural areas.

MALARIA CONTROL

136. There are three organisations with highly technical staff grouped in special anti-malarial units which have been engaged for over a quarter century in this task viz:— the City Council the Armed Forces and the

Government Health Division. The main method adopted by all three has been the larval control of the vectors—anopheline maculatus and anopheline sundaicus. This entails the laying of subsoil pipes, construction of permanent surface drains, digging of ditches, the use of anti-malarial oil and spraying of insecticides. There was no indigenous malaria case in Rural areas including the surrounding islands in the year 1959.

MALARIA SURVEYS

137. 412 rural malaria surveys were carried out and the summary total of the various mosquito specimen collected on these surveys are tabulated below:

A. maculatus	...	...	88 collections
A. sundaicus	...	...	14 collections
A. karwari	...	...	6 collections
A. baezai	...	...	22 collections
A. leucosphyrus	...	...	1 collection
A. aikenii	...	...	1 collection
A. hyrcanus	...	...	1,472 collections
A. kochi	...	...	743 collections
A. vagus	...	...	26 collections
A. separatus	...	...	8 collections
A. barbirostris	...	...	—
A. Letifer	...	...	—

SPECIAL SURVEYS

138. 185 special surveys were carried out during the year to investigate notifications of malaria cases, for bringing new areas under anti-malaria control because of development and in attending to mosquito, fly and other insect pest complaints. The following collections of mosquitoes were made during these surveys:

A. maculatus	...	...	—
A. sundaicus	...	...	—
A. karwari	...	...	4 collections
A. baezai	...	...	4 collections
A. hyrcanus	...	...	8 collections
A. kochi	...	...	14 collections
A. vagus	...	...	—
A. separatus	...	...	1 collection
Aedes Stegomyia	...	...	284 collections
Culex	...	...	18 collections

Yellow Fever Control—Singapore Airport

139. Aedes Stegomyia mosquito control within the Airport Proper and 880 metres from the airport perimeter fence had been carried out vigorously as in previous year and as a result not a single collection of Aedes (S)ægypti, the domiciliary yellow fever vector, was made during the year within the control areas. The Aedes Index for the year 1959 is given in Table 25.

AEDES (STEGOMYIA) SURVEYS 1959

140. The usual measures practised during previous years was satisfactorily maintained during 1959. This included clearing of artificial containers, check surveys, destruction of natural breeding places and clearing of secondary vegetation.

Residual Spraying

141. Spraying of houses in the controlled area around the International Airport and in the Southern Island was done once in four months.

WATER SUPPLIES

142. The provision of a safe water supply is one of the most important public health measures. The water supply in the Rural Areas is mainly from two sources—City piped water supply and wells. Piped water supply is available along the main trunk roads of the Rural Areas. However, in the more remote parts the people will have to depend on well water supply. This is an unsatisfactory state of affairs, from the public health point of view, as nearly every well is found to be grossly polluted due to the existence of insanitary dwellings or privies or pig and fowl sheds. Also, during dry weather the water level in the wells goes down and the people often complain of shortage of water. In such instances, water has to be transported in water wagons to relieve these villagers. However, Rural Board has made provisions in its annual budget for the erection of more standpipes for the use of the public residing in the outlying villages and kampongs. The Health Department advised on the suitability of the sites and also provides drainage facilities when these standpipes have been erected. During the year 1959, 122 standpipes were installed and 59 public standpipes were provided with concrete platforms and proper drainage facilities.

143. In its campaign for the improvement of kampongs in the Rural Areas, a number of deep sanitary wells were constructed by the Health Department and old wells renovated. A total of 18 new wells were constructed and 19 old wells renovated by the Health Department. Precautionary measures are also taken by providing parapet walls and covers to prevent children falling into the wells. A number of casualties, particularly among the younger children, have occurred and the Health Department has stepped up its campaign for the protection of wells. It is hoped that with these measures the number of accidents of children falling into wells will be reduced.

144. Anti-malarial works with subsoil drainage system also provide a ready source of domestic water. This therefore serves two purposes at the same time. Firstly, it serves as an anti-malarial measure and at the same time, it provides seepage water tapped by this means for the use of the remote kampong folk.

FOOD HYGIENE

145. In a tropical country where most of the factories for food manufacture are of a sub-standard variety and the number of hawkers and food peddlers are numerous, constant vigilance is essential to avoid outbreaks of gastro-intestinal diseases. The public health inspectorate has to provide constant supervision on the sale of food, the inspection of premises in which they are prepared and stored and the equipment and appliances used in the manufacture. A total of 15,164 inspections were made to food premises during the year.

146. The following premises were visited and recommendations forwarded to the Rural Board for the approval of the issue of licences:—

Aerated water factory	...	...	3
Bakery	...	...	56
Bean cake shop	...	...	1
Bean curd skimming	...	...	2
Cake shop	...	...	3
Coffee shop	...	...	29
Cold drinks	...	...	6
Coffee powder grinding	...	...	9
Confectionery	...	...	2
Dairies	...	...	48
Eating House	...	...	585
Fish shop	...	...	16
Flour mill	...	...	7
Fruit shop	...	...	57
Ice cream storing	...	...	11
Market (private)	...	...	11
Meat shop	...	...	37
Milk bar	...	...	4
Pasturing and packing milk plant	...	...	1
Peanut butter canning	...	...	1
Sauce Factory	...	...	14
Slaughter house (private)	...	...	2
Sweet making	...	...	2
Soyabean curd factory	...	...	1
Vegetable canning	...	...	4
Vegetable shop	...	...	22
Vermicelli factory	...	...	22

147. With periodic inspections and surprise checks, it is hoped to effect gradual improvements to the existing standards of the food premises and to maintain a reasonable standard of wholesomeness in the quality of the article prepared for human consumption.

148. During the year a total of 18 informal samples of canned food were submitted to the Department of Chemistry for analysis. It was reported that 16 samples were found to comply with the Food and Drugs Regulations, 1957, while the remaining two were unsatisfactory. Other samples included 2 bottles of edible oil and 3 bottles of bean vit, the results of which were satisfactory. 14 informal milk samples were purchased for analysis, of which one was found not to be in accordance with the standards prescribed.

149. Stools from ice-cream vendors were taken and submitted for periodical examinations. The results were found to be negative for salmonella and shigella group.

150. In September, 9 cases of death occurred in the City Area due to barley food poisoning. Investigations carried out revealed the presence of parathion in certain consignment of barley and this was responsible for these deaths as well as a number of cases which recovered. Both the City and Rural Health Inspectors were mobilised and all loose stocks of barley which was suspected to come from this consignment were sealed. The public was also warned not to consume loose barley. As a result of such energetic measures, no further cases of barley food poisoning occurred.

OFFENSIVE AND DANGEROUS TRADES

151. Licensing and control of offensive trades are governed under section 211 of the Municipal Ordinance and the Rural Board Offensive Trades Bylaws. These provide for the sanitary requirements, adequate lighting, ventilation and drainage of the premises, provision of adequate and wholesome water supply and the satisfactory safeguards for the prevention of any health hazards present in the trade. Many of these trades are really cottage

industries which are conducted in crude and primitive ways and this tends to increase the hazards and dangers to health due to ignorance and empirical means adopted. On the other hand, there has been a great improvement in the welfare of workers of the larger establishments as regards their housing accommodation, hours of work, wages, provision of bonus benefit, leave and other matters pertaining to the workers health. The Factory Ordinance came into effect in 1958 and it is hoped with its enforcement, the standard of industrial health in Singapore will be raised.

152. A total of 6,471 inspections were carried out during the year. The number of premises licensed were as follows:—

Attap store	...	...	...	56
Brick factory	...	...	...	11
Carbide store	...	...	...	6
Can making	...	...	...	2
Candle making	...	...	...	2
Cellulox Solution storing	...	...	...	4
Charcoal store	...	...	...	38
Chewing Gum Base factory	...	...	...	1
Dye factory	...	...	...	2
Fertilizer manufacturing	...	...	...	1
Fire cracker shop	...	...	...	5
Firewood store	...	...	...	83
Fish Curing yard	...	...	...	3
Foundries	...	...	...	2
Fruit Preserving yard	...	...	...	3
Garage	...	...	...	57
Jelutong factory	...	...	...	1
Kerosene store	...	...	...	5
Laundry	...	...	...	163
Lime factory	...	...	...	8
Live Stock farm	...	...	...	1
Miniature Zoo	...	...	...	3
Oil factory	...	...	...	12
Paper Goods manufacturing	...	...	...	1
Perfume manufacturing	...	...	...	1
Petrol store	...	...	...	75
Picture Frame making	...	...	...	1
Pineapple factory	...	...	...	2
Plywood factory	...	...	...	1
Polythene manufacturing	...	...	...	1
Pottery works	...	...	...	8
Propane gas storing	...	...	...	1
Rattan store	...	...	...	2
Rubber goods manufacturing	...	...	...	4
Rubber factory	...	...	...	3
Rubber smoke house	...	...	...	25
Sago factory	...	...	...	4
Saw Mill	...	...	...	7
Sheep and Goat Pen	...	...	...	5
Shoe factory	...	...	...	1
Smithy	...	...	...	11
Soap factory	...	...	...	8
Sugar Refinery	...	...	...	3
Tannery	...	...	...	5
Timber yard	...	...	...	70
Tyre Retreading	...	...	...	1
Turpentine store	...	...	...	1
Woodwork factory	...	...	...	2

PIGGERIES

153. Of the four piggery overseers employed by the Rural Board, two have left the service. The sanitary conditions of the piggeries in the Rural Areas leave much to be desired and it is not uncommon to receive complaints in respect of nuisances from piggeries. The rearing of pigs, however, has an important economic bearing on the food production of the Island and while a satisfactory solution should be found in sanitating these piggeries, this economic factor should be borne in mind. The total number of piggeries licensed during the year was 2,415.

CATTLE SHEDS AND DAIRIES

154. Unlike the Chinese farmer, the Indian workman keeps a few head of cattle to augment his income. Many of the cattle were found to be insanitary and the Health Department has been trying very hard to improve matters. There are two large dairy farms in the Rural Areas viz:— Malayan Dairy Farm and Singapore Dairy Farm. These two farms supply milk which are pasteurised before sale to the public.

PISCICULTURE

155. The number of fish and prawn ponds in the Rural Areas remain about the same. From the public health point of view these prawn and fish ponds may give rise to breeding of *A. sundaicus* and control of breeding of dangerous mosquitoes in the brackish water pond has always been a difficult problem. There are about 300 ponds in the Rural Districts of which 250 are fish ponds, the rest being prawn ponds.

KAMPONG SANITATION

156. An extensive programme of Kampong Sanitation was planned and carried out during the year. The Health Department was able to attend to a total of 44 kampongs by making full use of the relief force provided by the Government.

157. Works such as provision of adequate drainage to deal with the sullage and other stagnant water, provision of sanitary latrines and wells and the repair of platforms for standpipes were undertaken. General cleanliness of the Kampong Areas was made possible by the ready co-operation given by the Rural Cleansing Section.

158. Health Education Campaign is being conducted by the Health Inspectors wherever necessary.

TABLE 25

SINGAPORE AIRPORT—PAYA LEBAR

Aedes STEGOMYIA CHECK SURVEYS CARRIED OUT DURING 1959

Month	Number of Surveys	Number of houses checked	Number of <i>Aedes</i> (S) <i>aegypti</i> collections	Number of <i>Aedes</i> (S) <i>albopictus</i> collections	Number of <i>Aedes</i> (A) <i>obtusans</i> collections	Number of <i>Culex</i> collections	<i>Aedes</i> <i>Stegomyia</i> Index
March ..	16	1,235	Nil	20	3	4	1.61%
June ..	23	1,487	Nil	18	7	13	1.21%
September ..	15	1,375	Nil	11	2	7	.8%
December ..	19	1,375	Nil	18	5	9	1.30%
Total ..	73	5,472	Nil	67	17	33	..

TABLE 26
AEDES (STEGOMYIA) SURVEYS 1959

Month	Number of Surveys	Number of houses checked	Number of <i>Aedes (S) aegypti</i> collections	Number of <i>Aedes (S) albopictus</i> collections	Number of <i>Aedes (A) obturbans</i> collections	Number of <i>Culex</i> collections	<i>Aedes Stegomyia</i> Index
March ..	16	1,235	Nil	20	3	4	1.61%
June ..	23	1,487	Nil	18	7	13	1.21%
September ..	15	1,375	Nil	11	2	7	.8%
December ..	19	1,375	Nil	18	5	9	1.30%
Total ..	73	5,472	Nil	67	17	33	..

TABLE 27

RURAL MALARIA MOSQUITO SURVEYS FOR THE YEAR ENDING 1959

Month	Total No. of surveys made	<i>A. macul- atus</i>	<i>A. sundaicus</i>	<i>A. karwari</i>	<i>A. leucos- phyrus</i>	<i>A. hyrcanus</i>	<i>A. kochi</i>	<i>A. vagus</i>	<i>A. baezai</i>	<i>A. separ- atus</i>	<i>A. aitkeni</i>	<i>A. philip- pinensis</i>	<i>A. letifer</i>
1959													
January ..	23	15	1	2	..	63	35	1	..	..	..	..	..
February ..	36	14	2	..	..	132	61	1	2	2	..	..	..
March ..	36	7	..	..	..	140	69	2	..	1	..	..	..
April ..	26	6	..	..	..	93	65	1	..	1	..	..	..
May ..	44	6	2	..	..	183	75	1	..	..	..	1	..
June ..	22	4	..	1	..	94	34	..	..	..	..	..	..
July ..	37	6	2	1	..	148	59	5	..	..	..	..	..
August ..	45	8	2	..	..	139	89	4	4	1	..	..	..
September ..	37	9	..	..	..	127	50	3	6	1	..	..	..
October ..	43	9	1	2	1	138	66	3	7	1	1	..	..
November ..	33	3	3	..	..	108	82	3	1	1	..	..	..
December ..	30	1	1	..	..	107	58	2	2	..	..	..	..
Total ..	412	88	14	6	1	1,472	743	26	22	8	1	1	..

SPECIAL MOSQUITO SURVEYS FOR THE YEAR ENDING 1959

MEDICAL REPORT 1959

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Month	Total No. of surveys made	<i>A. macul- atus</i>	<i>A. sundaicus</i>	<i>A. karwari</i>	<i>A. leucos- phyrus</i>	<i>A. hyrcanus</i>	<i>A. kochi</i>	<i>A. vagus</i>	<i>A. baezai</i>	<i>A. separ- atus</i>	<i>A. aitkeni</i>	<i>Aedes Steg- omyia</i>	<i>Culex</i>
1959													
January	3	..	..	..	..	..	..	..	..	..	..	8	10
February	..	..	..	..	..	..	..	..	..	..	..	..	..
March	..	..	..	..	..	..	..	..	..	..	..	..	..
April	2	..	..	..	..	..	..	..	..	..	..	10	2
May	11	..	..	..	..	..	..	..	..	..	..	25	3
June	17	..	..	..	..	..	..	..	..	..	..	40	..
July	26	..	..	..	..	..	..	..	..	..	..	43	..
August	27	..	..	..	..	2	..	..	..	..	..	34	..
September	27	..	..	..	..	1	1	..	3	1	..	40	1
October	26	..	..	..	..	..	..	..	..	..	..	32	..
November	29	..	..	..	..	5	13	..	1	..	..	27	..
December	17	..	..	..	..	..	..	..	..	..	..	25	2
Total	185	..	..	..	..	8	14	..	4	1	..	284	18

TABLE 28*a*

SINGAPORE AIRPORT—PAYA LEBAR

ANTIMALARIAL DRAINAGE CONSTRUCTION WORKS CARRIED OUT DURING THE YEAR 1959

<i>S.S. Pipe drains laid</i>					<i>Total length</i>
8" S.S. pipe drain	...	...	...	...	2,316 feet
6" S.S. pipe drain	...	...	...	...	4,537 feet
4" S.S. pipe drain	...	...	...	...	675 feet
Total length of S.S. pipe drain laid					7,528 feet
<i>Permanent antimalarial drains constructed</i>					
18"— $\frac{1}{2}$ section invert drain with sides slabbed	...	...	...	...	425 feet
12"— $\frac{1}{2}$ section invert drain with sides slabbed	...	...	...	...	36 feet
Total length of permanent drains constructed					461 feet
Brick antimalarial washwells constructed	...	...	...	...	3
Brick S.S. pipe drain junction chambers constructed—different size	...	...	...	...	18
Bakau piling to prevent soil erosion on either side of a.m. outlet drain to a total length of	...	...	...	...	214 feet
<i>Kampong sanitation construction works carried out during the year 1959</i>					
Standpipe platforms constructed	...	...	...	...	4
9"— $\frac{1}{2}$ section standpipe platform outlet drains constructed	...	...	...	...	105 feet

CHAPTER SIX

MATERNAL AND CHILD HEALTH SERVICE IN THE RURAL AREAS

Staff

159. The staff of this Service consisted of 1 Lady Medical Officer in-charge Maternal and Child Health Service, 10 Medical Officers, 1 Public Health Matron, 12 Health Sisters, 39 Health Nurses and 68 Health Midwives.

Maternal and Child Health Clinics

160. There are three types of Maternal and Child Health Clinics at present i.e.

	1957	1958	1959
Main clinics (resident midwives 2-6) ...	19	20	20
Midwife centres (resident midwife) ...	7	8	8
Visiting centres (non-residential) ...	25	25	21

TABLE 29

MATERNAL AND CHILD HEALTH CENTRES AS ON 31ST DECEMBER, 1959

Bouna Vista.	Bulim.	Princess Elizabeth Estate.
Holland Road.	St. John's Island.	Tanjong Murai.
Bukit Timah.	Sungei Tengah.	Kampong Blukang.
Jurong 12½ m.s.	Kuala Loyang.	Kampong Bajau.
Jurong 18 m.s.	Somapah.	Damar Laut.
Bukit Panjang.	Jurong 10 m.s.	Pulau Sudong.
Ama Keng.	Lim Chu Kang. 18 m.s.	Pulau Semakau.
Mandai.	Pulau Ubin.	Pulau Seking.
Thomson Road.		Pulau Seraya.
Yio Chu Kang.		Pulau Bukom Kechil.
Lim Ah Pin.		Lazarus Island.
Kim Chuan Road.		Pulau Ayer Merbau.
Kampong Batak.		Pulau Samulun.
Bedok 9 m.s.		Pulau Ayer Merlimau.
Ulu Bedok.		Chia Keng Village.
Changi.		Ayer Gemuroh.
Sembawang.		Pulau Ubin.
Keh Hai Road.		Ponggol.
Pulau Brani.		Kampong Loyang.
Pulau Tekong.		Pulau Sebarok.
		Woodlands 15½ m.s.

TABLE 30

DOMICILIARY MIDWIFERY STATISTICS—RURAL AREA

	1956	1957	1958	1959
Total number of live and still births in the rural area ...	16,749	16,462	25,768	26,811
Confinements in Kandang Kerbau Hospital ...	3,356	5,556	5,831	8,311
Confinements attended by Government midwives ...	8,553	7,961	8,043	7,201
Confinements attended by private midwives Class B	4,560	5,483	6,452	5,878

Maternity Services

161. Ante-natal Care—The standard of ante-natal care remained high throughout the year. Complete medical cover was possible at all times because of adequate numbers of Clinic Medical Officers.

162. The weekly midwife ante-natal sessions in the main clinics and the daily midwife ante-natal sessions in the kampong midwife centres proved to be of great value in maintaining the “umbrella” of ante-natal care in the rural areas.

163. The high incidence of anæmia amongst ante-natal mothers persisted in spite of constant teaching in the clinics and in the homes. The problem is one of sewage disposal. Much of the rural population has still to rely on bucket latrines.

164. Post-natal Care—The attendances of the mothers at the post-natal clinic remained disappointing. Shortage of Health Nurses prevented adequate health education and advice in the homes.

165. Domiciliary Midwifery—The Health Midwives from the main clinics and kampong midwives centres attended a total of 7,812 confinement calls, about 500 less than in the previous year. Of these, 611 had to be sent to Kandang Kerbau Hospital because of some complications during labour.

Supervision of Midwives

166. Sister Alice Chia returned to Singapore in March after 3 years in England where she obtained the Health Visitor Certificate, District Nursing Certificate, Midwife Certificate Part II, and training in administrative supervision of domiciliary midwifery. She has since carried out the duties of Supervisor of Midwives under the direction of the Public Health Matron.

Child Health Clinics

167. There was a drop in the clinic attendances for all ages except for children over 1 year. This could be accounted for by the disruption of clinic sessions for nearly one month as from the middle of April when the health clinics were swamped by demands for vaccination against smallpox. During this month, Maternal and Child Health services had to be suspended.

Immunisation

168. B.C.G. Vaccination—The response to B.C.G. vaccination for newly-born infants was good. More than half the babies delivered by Government midwives received their B.C.G. vaccination before the age of one month. Out of 7,201 babies delivered by Government midwives, 4,078 infants were given B.C.G. immunisation.

169. Diphtheria, Whooping Cough and Tetanus—The immunisation against diphtheria, whooping cough and tetanus in all the rural clinics was most satisfactory but this campaign suffered a set-back in April when all efforts were concentrated on the mass vaccination campaign against small-pox.

170. Due to the efforts of the staff in repeatedly advising parents to bring their children for inoculation, a very good percentage of the infants under 1 year (86.9 per cent) came for their Triple Antigen injections.

Maternal and Child Health—Islands off Singapore

171. The standard of Maternal and Child care was the same as that in the clinics of the main Island of Singapore. A team consisting of a Lady Medical Officer, Health Nurse and Health Midwife, together with a Hospital

Assistant, visited the islands weekly in the Floating Dispensary *Seraya* throughout the year. Bi-weekly out-patient sessions on the islands appeared to be much appreciated by the islanders.

Teaching

172. The Lady Medical Officer, Maternal and Child Health Service, and Senior Nursing staff assisted in the Public Health Nursing Course.

TABLE 31

SUMMARY OF WORK DONE IN MATERNAL AND CHILD HEALTH CENTRES

		1957	1958	1959
Home visits by (a) Health Nurse ...	...	50,847	33,106	45,450
	(b) Health Midwife ...	58,211	54,141	60,636
Nursing visits by Midwives ...	...	45,333	40,203	45,883
Confinements attended ...	...	7,961	7,750	7,201
Mothers in labour to hospitals ...	...	551	486	611
<i>Clinic attendances</i>				
Infants (0-1 year) ...	...	134,481	131,302	128,205
Children (over 1 year) ...	...	76,325	75,556	87,272
Antenatal ...	...	65,602	77,391	75,558
Postnatal ...	...	4,215	3,186	2,697
Family Planning (new cases) ...	...	917	1,187	1,396
Family Planning (repeat cases) ...	...	2,925	4,411	5,987
Primary vaccinations ...	...	13,253	16,135	15,183
<i>Diphtheria Immunisation</i>				
P.T.A.P. 1st dose ...	...	9,405	2,604	1,704
	2nd dose ...	8,974	2,795	1,245
	Booster ...	5,354	6,062	4,893
<i>Kampong Diphtheria Immunisation Campaign</i>				
P.T.A.P. 1st dose ...	...	4,476	2,445	1,690
	2nd dose ...	3,578	1,800	1,248
	Booster ...	1,099	1,411	1,141
<i>Triple Antigen Immunisation</i>				
Diphtheria, Whooping Cough and Tetanus	{ 1st dose ...	15,507	25,717	21,307
	{ 2nd dose ...	12,882	12,968	16,784
	{ 3rd dose ...	10,135	12,265	13,349
	{ Booster ...	488	1,751	7,173
B.C.G. Vaccination (Island wide from May 1958) ...	...	517	2,994	4,078
Tuberculin Tests—Negative ...	...	188	134	—
	Positive ...	163	75	—
<i>Non-notifiable Infectious Diseases</i>				
Whooping Cough ...	...	507	198	224
Measles ...	...	116	256	125
Mumps ...	...	7	10	28
<i>Free Milk Distribution</i>				
1. Milk to ante-natal mothers (in lb.) ...	...	10882.5	17,667	20,487
	Number of mothers ...	11,211	17,667	20,800
2. Milk to children (in lb.) ...	...	21,089	21544.5	29,212
	Number of children ...	22,344	23,266	31,513
3. Total amount of powdered milk (in lb.)		31871.5	39211.5	49,699

TABLE 32

VITAL STATISTICS—RURAL AREA

	1955	1956	1957	1958	1959
Maternal deaths	12	15	11	22	..
Live births	15,589	16,576	16,286	25,348	26,342
Still births	171	173	176	420	369
Total births	15,760	16,749	16,462	25,768	26,711
Perinatal deaths (first 7 days of life)	n.a.	n.a.	n.a.	298	..
Neonatal deaths (first 4 weeks of life)	240	203	180	413	145
Infant deaths (from 4 weeks to 1 year old)	697	647	570	1,077	468
Maternal mortality (deaths per 1,000 live and still births) ..	.76	.89	.66	.85	..
Perinatal mortality (still births and deaths in 1st week of life	n.a.	n.a.	n.a.	27.8 per 1,000 total births	..
Neonatal mortality (number of deaths per 1,000 births) ..	15.4	12.3	11.0	16.2	5.5
Infant mortality (number of deaths per 1,000 live births) ..	44.7	39.0	34.9	42.4	17.7
Still birth rate (number of still births per 1,000 total births) ..	10.8	10.3	10.6	16.2	13.8
Total number of babies under 1 year attending clinics ..	n.a.	15,609	16,295	17,026	16,541

CHAPTER SEVEN

QUARANTINE SERVICE

173. The Quarantine Service comprises three closely related sections—the Marine Port Health Service, the Airport Health Service and the Quarantine Station.

174. Staff position at the end of the year is given in Table 33.

TABLE 33

STAFF OF THE QUARANTINE SERVICE AS ON 31ST DECEMBER, 1959

	Health Officers	Lay Super- intendent	Sanitary Inspectors	Technical Sub- ordinates	Hospital Assistants	Midwife
Marine Port Health Service ..	3	..	3	1	..	..
Airport Health Service ..	1	..	..	..	4	..
Quarantine Station	..	1	..	1	1	1
Total ..	4	1	3	2	5	1

175. The occurrence of epidemic cholera in Thailand and outbursts of epidemic smallpox in Indonesia called for intensifications of quarantine measures during 1959.

176. The Port Health Service has 2 launches available for the inspection and clearance of ships.

Inspection and Clearance of Small Craft

177. There is further improvement in the arrangements for health clearance for small craft from neighbouring islands; this work is now done at all times that immigration clearance is done, including Sundays and holidays. The clearance of small craft from neighbouring islands is done by 2 Public Health Inspectors stationed at Immigration East Wharf.

Radiomedical Service

178. The Government operates a round-the-clock radiomedical service. This is often availed of by merchant ships and requests for radiomedical advice has been received from Masters of ships as far away as Persian Gulf and the Philippine Sea. During 1959 over 63 radiomedical requests were received and promptly attended to by the Port Health Officer on duty.

Quarantine Station

179. With stricter immigration control being enforced there continues to be a marked drop in the number of passengers quarantined at the Quarantine Station at St. John's Island.

TABLE 34

PASSENGERS QUARANTINED AT ST. JOHN'S ISLAND

—	Total	Chinese	Indians	Malaysians	Others
1955	20,537	9,965	10,469	54	49
1956	33,842	22,260	11,424	109	49
1957	24,175	14,965	9,015	140	55
1958	14,421	7,648	6,429	323	21
1959	12,479	5,735	5,912	806	26

Airport Health Service

180. Paya Lebar Airport is the International Airport for Singapore. The Airport is a designated Sanitary Airport under the terms of Article 19 of the International Sanitary Regulations. Nineteen airlines make use of the Paya Lebar Airport and there were 6,455 aircraft arrivals and 6,460 departures on international flights. Round-the-clock service for the clearance of aircraft and passengers from "infected airports" has been provided by four senior Hospital Assistants.

181. The general sanitation of the Airport has remained satisfactory throughout the year.

182. The Airport Health Officer rendered medical attention to minor ailments or emergencies. During the year 472 minor cases were seen; of these 16 were referred to General Hospital for treatment.

TABLE 35

SUMMARY OF WORK DONE BY THE AIRPORT HEALTH SERVICE

—	1953	1954	1955	1956	1957	1958	1959
Aircraft from infected airports ..	1,321	1,341	1,313	1,647	1,707	2,438	2,188
Passengers and crew cleared	39,725	39,725	45,976	71,600	82,166	94,718	94,878
Passengers isolated ..	..	..	..	..	..	..	..
Passengers under surveillance ..	69	41	21	67	2,565	2,882	254
Aircraft disinfected ..	..	..	..	..	..	..	..

Introduction of Jet Services

183. The year 1959 saw the introduction of jet flights at Singapore Airport. B.O.A.C.'s Comet 4 and Q.E.A.'s Boeing 707 commenced services calling at Singapore on 1st June, 1959 and 27th October, 1959, respectively. They now have two flights daily operating through Singapore. Before the end of 1960 we should expect a busier time as at least three more major airlines will switch piston-engined to pure jet aircraft.

Mild Outbreak of Smallpox

184. A mild outbreak of smallpox in the Alexandra district in April caused quite a commotion in Singapore during the year.

185. The source of this outbreak was traced to a 10-year old Indian boy from India who disembarked at Penang on 15th March, 1959, from the vessel *State of Madras*. This boy who was in possession of a valid certificate of vaccination against smallpox continued his journey by train and arrived in Singapore on 17th March, 1959, with a temperature and skin rash. He did not seek any medical attention and was not discovered until four weeks later following the admission of a secondary case of smallpox to the British Military Hospital from the Alexandra district. As a result of further investigations, a total of 10 cases of smallpox were discovered. 2 deaths were reported.

TABLE 36

SUMMARY OF WORK DONE BY THE PORT HEALTH SERVICE

	1955	1956	1957	1958	1959
INSPECTIONS AND CLEARANCE OF SHIPS					
Ships inspected and cleared ..	1,783	1,849	1,519	2,030	2,206
Passengers inspected on ships at the Quarantine Anchorage	116,275	95,779	101,182	136,226	168,914
Corpses inspected	14	14	10	11	5
Pilgrim Ships	3	4	4	4	4
Pilgrims	2,619	2,518	2,214	1,891	1,967
Disinfection of infected vessels ..	Nil	Nil	Nil	Nil	Nil
Small Crafts from neighbouring islands inspected and cleared	3,871	4,788	4,821	6,750	9,258
Passengers from small craft inspected ..	22,324	23,611	35,129	55,735	73,371
Inspection of Bum Boats	106	103	102	98	50
Inspection of Water Boats	6	8	8	9	5
RODENT CONTROL					
Ships inspected for evidence of rodent life	399	401	418	472	403
Ships issued with Deratization Certificate	104	119	109	119	116
Ships issued with Deratization Exemption Certificate	295	282	309	353	287
Rats destroyed during fumigation ..	1,192	782	462	1,170	646
Rats examined bacteriologically* ..	191	193	129	680	268
VACCINATION AND INOCULATION					
Small-pox vaccination	10,157	10,042	9,819	8,668	11,069
Cholera inoculation	10,277	10,051	10,321	10,838	10,216
T.A.B. inoculation	52	58	75	34	30
SANITARY DOCUMENTS					
Bills of Health	598	500	575	616	498
Permits issued to import, export or trans-ship coffins containing human remains	81	88	71	54	75
Certificates to accompany goods ..	118	93	94	175	113
Certificates issued for articles disinfected by steam	1	..	..	..	..

* Rats are examined bacteriologically by the City Health Department.

CHAPTER EIGHT

SCHOOL HEALTH

186. The School Health Service is centrally administered in Singapore. During the year 16 new schools were opened in Singapore. At the end of 1959 there were 718 schools in the State; this excludes the miscellaneous schools (e.g. religious, commercial, sewing, etc.). There were approximately 60,000 new entrants as against 57,000 in 1958. The total school population rose from 295,481 in 1958 to 320,977 by the end of 1959, an increase of 25,496.

187. A classification of Government, Government Aided and Private Schools together with the enrolments for 1958 and 1959 is shown in Table 37. The geographical distribution of schools, and the enrolment of Government, and Aided Schools as compared with Private Schools are given in Tables 38 and 39.

TABLE 37

SUMMARY OF SCHOOLS AND SCHOOL POPULATION

Type of Schools	Number of Schools		Enrolment	
	1958	1959	1958	1959
Government Schools:				
(a) English	202	217	100,898	117,765
(b) Malay	66	70	14,240	15,804
(c) Chinese	11	13	4,648	6,564
(d) Tamil .. ..	..	2	..	143
Aided Schools:				
(a) English	66	68	33,791	36,105
(b) Malay .. ..	..	..	..	..
(c) Chinese	233	235	122,830	127,387
(d) Tamil	17	15	1,463	1,313
Private Schools:				
(a) English	67	59	11,295	9,616
(b) Chinese	40	39	6,316	6,280
Total ..	702	718	295,481	320,977

43.71 per cent of all the pupils attended Government Schools.
51.34 per cent of all the pupils attended Aided Schools.
4.95 per cent of all the pupils attended Un-aided Schools.

TABLE 38

GEOGRAPHICAL DISTRIBUTION OF SCHOOLS

	City	Rural	Islands	Total
Government and Government Aided Schools	338	261	21	620
Private Schools	78	19	1	98

TABLE 39

DISTRIBUTION OF SCHOOL POPULATION

Government and Government Aided Schools	Private Schools	Total
305,081	15,896	320,977

Staff

188. At the end of 1959 the staff of the School Health Section consisted of one Health Officer in charge of Schools, five Health Officers, six Lady Health Officers, eleven Assistant Nurses and Assistant Health Nurses, one Senior Hospital Assistant, three Hospital Assistants, one Laboratory Technician and one Public Health Inspector.

TABLE 40

SUMMARY OF SCHOOLS, SCHOOL POPULATION, CHILDREN EXAMINED AND HEALTH OFFICERS 1955-1959

	1955	1956	1957	1958	1959
Registered Schools ..	595	624	668	702	718
Students	204,154	235,079	260,444	295,481	320,977
Students examined ..	63,424	69,644	80,991	74,058	124,250
Health Officers	12	13	11	13	11

ROUTINE MEDICAL EXAMINATIONS

189. Medical examinations of children were carried out by the School Health Officers in Government and Government Aided Schools only. Whilst no examinations are conducted at non-aided (private) schools, children from such schools may, and do, attend the school clinics which are open to all school children.

190. Because of the enormous size of the school population it has been found necessary to establish a system of selective examinations. The School Health Officers during their visits to schools for the routine medical examinations confine their attention to particular groups. The groups include (a) New Entrants, (b) Primary and Secondary School Leavers, (c) Defectives found at previous examinations. During the visit to the school, the staff are encouraged to refer children who were not due for routine periodic examination but whose physical or mental progress was considered to be below par. These children are listed as "Others". These four groups are referred to in the report as "New Entrants", "School Leavers", "Re-examinations" and "Others".

191. As it is quite impossible to obtain an accurate history of past illnesses, previous inoculations etc., from children aged 7-8 years in the Primary I classes, the parents of these children are invited to be present during the routine medical examinations. Their presence also affords an excellent opportunity for the Health Officers to advise them on hygiene and diet.

192. Out of a total of 620 Government and Government Aided Schools, 597 were visited by either a Health Officer or a Lady Health Officer, and in the case of a mixed school by both a Health Officer and a Lady Health Officer. The total number of children examined was 124,250 so that more than one third of the school population was examined by the School Health Officers. Table 41 shows the number of boys and girls examined at the various types of schools.

TABLE 41

CLASSIFICATION OF CHILDREN EXAMINED

Schools	Girls	Boys	Total
Government English	22,797	26,986	49,783
Aided English	6,355	5,332	11,687
Government Chinese	1,346	1,558	2,904
Aided Chinese	23,709	28,289	51,998
Malay	3,496	3,386	6,882
Tamil	543	453	996
Total ..	58,246	66,004	124,250

193. It was considered particularly important to examine the new entrants, in order to diagnose and treat defectives as early as possible, and where time was limited, the Health Officers concentrated on this group. According to the Ministry of Education statistics nearly 60,000 children entered school for the first time in 1959, of these 55,511 were examined during the year by the School Health Officers. Table 42 shows the total number of school children in the various groups that were examined by the Health Officers.

TABLE 42

CLASSIFICATION OF EXAMINATIONS DONE

—	Girls	Boys	Total
New entrants	25,080	30,431	55,511
School Leavers	10,423	15,502	25,925
Re-examinations	15,263	3,375	18,638
Others	7,480	16,696	24,176
Total ..	58,246	66,004	124,250

194. Table 43 shows the classification of the various types of schools visited by the Health Officers for the purpose of conducting medical examination of school children.

TABLE 43

CLASSIFICATION OF SCHOOLS INSPECTED BY SCHOOL HEALTH OFFICERS

—	City	Rural	Island	Total
Government English	151	60	3	214
Aided English	48	18	..	66
Government Chinese	11	2	..	13
Aided Chinese	90	123	5	218
Government Malay	27	29	13	69
Government Tamil	2	..	..	2
Aided Tamil	9	6	..	15
Total ..	338	238	21	597

GENERAL HEALTH

195. On the whole, the general standard of health of the new entrants is fair, and that of the school leavers good. Of the total number of school children examined by the School Health Officers, 53,585 or 81.18 per cent of the boys examined were rated as being of good general condition, 11,862 or 17.97 per cent fair, and 557 or .84 per cent poor. The corresponding figures for girls are 26,034 or 44.7 per cent good, 27,389 or 47.02 per cent fair, and 4,823 or 8.28 per cent poor. Apart from dental caries and defective vision, a much higher percentage of defectives was found among the new entrants. The main defects amongst the school children are skin and respiratory infections

followed by sub-nutritional deficiency states—the contributory factors being helminthic infestations, poor dental and personal hygiene and ignorance of parents of their children's dietetic requirements.

Dental Caries

196. This is by far the most common defect found among school children. The majority cannot afford dental treatment, especially those from the rural areas. The provision of more mobile dental clinics would seem to be the answer. The present facilities for dental treatment are inadequate. There are only two Government Dental Clinics for the treatment of school children. One of these functions at the Institute of Health and the other at Tan Tock Seng Hospital. In addition, there are three school mobile dental clinics and four school dental huts.

197. The school mobile dental clinics do not cover most of the schools, particularly those in the rural areas and those sited in areas with poor approach roads. Most of the children from the rural schools are reluctant to have dental treatment even if it is free, because of the distances they have to travel. It is essential therefore to have more school mobile dental clinics visiting more of the schools, particularly those in the outlying rural areas.

Skin Infections.

198. Skin conditions such as sores, ulcers, ringworm, eczema and scabies are found to be slightly more common among school children in the rural schools due to the lower standard of environmental hygiene. Malnutrition also accounts for dry scaly skin, phrynodema angular stomatitis, etc.

199. Many of these skin complaints affect usually all the members of a family simultaneously and consequently the eradication or elimination of such conditions from the school population is more difficult since the school children alone will receive treatment. It is therefore obvious that not only the children involved but the whole family should be treated and given all the advice and guidance.

200. Twenty-nine cases of Neuroderma were referred to the Hansen's Clinic and of these eleven were admitted to the Trafalgar Home as definite cases of leprosy.

Ear, Nose and Throat

201. Twenty-six cases of deafness were reported. Infections of the middle ear, which were usually chronic, were referred to the E.N.T. Specialist for treatment. A number of children were found to have enlarged tonsils and parents were instructed with regard to conservative treatment. Tonsillectomy was not recommended except in cases with a history of repeated sore throats or where the general condition of the child was below normal.

Organic Valvular Heart Disease

202. Mitral stenosis, auricular and ventricular septal defects, and patent ductus arteriosus are the common heart defects found. In the case of the acquired cardiac disabilities they are probably of rheumatic origin although a previous history of rheumatic fever is very difficult to obtain.

Respiratory Infections

203. Children from the urban areas, where overcrowded living conditions and poor ventilation are common, were more susceptible to infection of the upper respiratory tract.

204. Bronchial asthma is quite a common condition found among the school children. Children with poor physical development associated with a history of chronic cough are mantoux-tested and sent for radiological examination of the chest. Suspected cases of Primary Complex are referred to the School Tuberculosis Officer for diagnosis and treatment.

Genito-Urinary

205. Phimosis, hydrocele and inguinal hernia were the most common defects found amongst the boys. With the consent of the parents these children were referred to the consultants and surgeons of the General Hospital for further treatment.

Blood Conditions

206. Cases of anæmia, particularly gross anæmia, were found more in the rural areas where worm infestation is prevalent. A certain number of these cases were due to nutritional causes in both urban and rural areas.

Worm Infestation

207. The incidence is higher amongst the children in the rural areas as compared with the urban school children. This is due to inadequate sanitation, the illegal use of night-soil as garden manure and the failure of the rural children to use protective footwear.

TABLE 44

INCIDENCE OF DEFECTS DETECTED IN ROUTINE SCHOOL MEDICAL EXAMINATION

(Figures for incidence of defects expressed as percentages)

			1955	1956	1957	1958	1959
Dental Caries	..	Boys	50.09	51.67	46.16	45.91	44.56
		Girls	54.83	51.78	55.52	49.7	45.11
Skin Infection	..	Boys	8.72	7.51	10.74	13.63	7.46
		Girls	41.3	22.08	18.11	12.79	11.13
Eyes: Infection	..	Boys	2.26	1.73	1.36	1.81	1.12
		Girls	1.5	1.03	1.42	1.18	1.08
Defection vision	..	Boys	3.09	3.46	3.31	4.1	3.76
		Girls	3.6	2.54	4.13	6.42	5.66
E.N.T.: Enlarged tonsils	..	Boys	4.16	4.21	2.99	2.11	.91
		Girls	0.93	0.75	1%	.46	.41
Ear infections	..	Boys	0.45	0.67	.51	.64	.69
		Girls	0.19	0.29	.25	.25	.17
Cardiac Disease	..	Boys	0.16	0.34	.89	1.16	.47
		Girls	1.46	0.82	1.14	1.18	.74
Respiratory Infection	..	Boys	2.17	2.92	3.93	4.02	2.33
		Girls	10.87	6.62	4.48	3.62	2.71
Genito-Urinary	..	Boys	2.13	2.33	3.41	2.71	1.72
		Girls	0.14	0.08	.25	.33	.31
Anæmia (under 60% Hb.)	..	Boys	1.36	1.61	.65	.71	.60
		Girls	3.5	4.31	3.64	.69	.47
Worm Infestation	..	Boys	6.42	8.84	8.34	2.8	2.95
		Girls	28.63	22.64	19.33	17.47	10.27
Other abnormalities including postural defects, Cleft Palate, Chest deformities	..	Boys	0.56	0.68	1.17	1.19	1.31
		Girls	9.42	8.55	18.09	8.88	6.27
Children Examined	..	Boys	36,232	37,553	41,221	30,805	66,004
		Girls	27,192	32,091	39,770	43,253	58,246

Personal Hygiene

208. There has been some improvement in general cleanliness among school children. School Health Officers have been able to get the co-operation of teachers in most cases to improve the hygiene habits of the children. More attention, however, should still be paid to the care of teeth and finger nails, and the wearing of shoes in the rural schools. Pediculosis is prevalent among the Malay schools and to some extent in the Tamil schools. The school teachers can play an important part in its eradication.

SCHOOL CLINICS

209. There is one main clinic at the Institute of Health, Outram Road, which functions daily both in the mornings and afternoons. The Health Officers each have a regular morning and afternoon session in order to follow up their own cases. There are also three subsidiary clinics in the suburban and rural areas. The Paya Lebar Clinic functions on Monday and Friday afternoons, the Kallang Clinic on Friday afternoons and the Bukit Timah Clinic on Saturday mornings. The Health Officers responsible for the schools served by the particular clinic are in attendance at each clinic session.

210. Table 45 shows the attendances at the school clinics for the years 1957 to 1959, whilst Table 46 shows the breakdown of school clinic attendances.

TABLE 45

ATTENDANCES AT SCHOOL CLINICS

	1957	1958	1959
Total number of new cases	45,524	44,469	44,730
Total number of re-visits	56,793	50,637	59,004
Total ..	102,317	95,106	103,734

TABLE 46

BREAKDOWN OF SCHOOL CLINIC ATTENDANCES, 1959

	New Cases	Repeat Cases	Total
Institute of Health Clinic	33,433	49,717	83,150
Paya Lebar Clinic	6,864	5,162	12,026
Kallang Clinic	2,939	2,891	5,830
Bukit Timah Clinic	1,494	1,234	2,728
Total ..	44,730	59,004	103,734

Laboratory Investigations

211. Routine laboratory examinations are conducted in the main clinic at the Institute of Health where there is a small laboratory staffed by a qualified laboratory technician. 5,345 investigations were carried out by him, as against 5,138 for 1958.

School Travelling Dispensaries

212. Two travelling dispensaries in the charge of one Health Sister assisted by 3 nurses visited the rural schools during the year for the treatment of minor ailments and to follow up cases referred by the School Health Officers. They were also responsible for the vaccination of new entrants both in the City and Rural schools.

213. Table 47 shows the number of visits to schools and the treatment given for the year 1957 to 1959.

TABLE 47

TOTAL NUMBER OF VISITS TO SCHOOLS AND THE TREATMENT GIVEN

	1957	1958	1959
Total Number of visits to schools ..	562	435	879
Total Number of treatment given ..	34,421	17,612	56,258

TABLE 48

CASES REFERRED TO SPECIALISTS, HOSPITALS AND OTHER INSTITUTIONS.

(a) Cases referred to Specialists

Cardiac Specialist	270
E. N. T. Specialist	450
Psychologist	34
Paediatrician	235
Ophthalmic Surgeon	575
Surgeons	1,784
Physicians	253
Orthopaedic Surgeon	507
Skin Specialist	109
Gynaecologist	6
Total ..	4,223

(b) Cases referred to Hospitals and other Institutions

General Hospital for admission	168
Casualty Dept. General Hospital	160
Middleton Hospital	124
Woodbridge Hospital	2
Trafalgar Home	11
Hansen's Clinic	29
Dental Clinic at Tan Tock Seng Hospital	34
Dental Clinic at Institute of Health	1,504
X-ray Dept. at General Hospital	144
X-ray Dept. at Tan Tock Seng Hospital	118
X-ray Dept. at Institute of Health	1,446
Total ..	3,740

Cases referred from School Clinics

214. 4,223 cases were referred to specialists and 3,740 cases were referred to various institutions.

TABLE 49

INFECTIOUS DISEASES IN SCHOOLS

	1955	1956	1957	1958	1959
Chickenpox	1,567	726	376	202	202
Diphtheria	43	61	118	124	272
Dysentery	2	18	..	6	16
Leprosy	13	7	4	4	11
Malaria .. ..	..	1	..	1	4
Measles	335	349	265	140	19
Mumps	588	306	218	207	325
Poliomyelitis	2	..	1	14	..
Typhoid fever	3	2	4	6	13
Whooping cough	35	11	28	34	20

Small-pox Epidemic

215. There was a minor outbreak of Small-pox in April 1959. An intensive vaccination campaign was undertaken by Government during this period. The School Health Section played its part in this vaccination campaign.

Home and School Visiting

216. Homes and Schools were visited by the Health Nurses of the Travelling Dispensaries and the Institute of Health School Clinic:—

- (i) to investigate and follow up cases of tuberculosis;
- (ii) to investigate cases of infectious diseases reported by the City Health Officer, the Rural Health Officer and School Principals;
- (iii) to take throat swabs of all indirect class contacts of cases of Diphtheria reported by the City and Rural Health Officers (3,421 throat swabs were taken in 1959 as against 4,504 in 1958);
- (iv) to vaccinate new entrants (45,322 new entrants were vaccinated in 1959 as against 29,175 in 1958).

ENVIRONMENTAL HYGIENE IN SCHOOLS

217. Further improvement was registered in the field of environmental sanitation of schools during the year 1959.

218. A fully qualified Public Health Inspector is engaged on a whole time basis for duties connected with the School Health Service. Visits are made regularly to various schools for the purpose of routine inspections or in connection with special investigations. Routine inspections are confined to yearly inspection of the existing schools for the purpose of ascertaining whether the provisions of the Education Ordinance and the Regulations made thereunder are being complied with. The special visit are made because of complaints received, nuisances reported, applications by new schools for registration, new school projects and any additions or alterations to existing schools. During the year 729 inspections were made by the Public Health Inspector.

219. A total of 74 building plans were submitted for advice and recommendations. Of these 45 were approved, 28 returned for necessary amendments and one was rejected.

220. The Health Officer in-charge Schools was asked by the Ministry of Education to inspect 33 buildings prior to their registrations as schools. Of these 10 were recommended for registration, 9 were rejected, and 14 are still under consideration.

221. There are still some overcrowding in a few of the schools more particularly in the smaller vernacular schools. The Ministry of Education, after consultation with the Ministry of Health, commenced granting, as a temporary measure, a 10 per cent overcrowding allowance to all standard size classrooms and thereby permitting a maximum of 44 pupils per classroom as against the 40 allowed for in the Schools Regulations.

222. Improvement in canteen arrangements has been observed, particularly in the larger schools. Additional washing facilities have been installed, the tables have been lined with aluminium tops and fly-proof covers have been provided for the protection of food in many schools.

School Milk Scheme

223. Skimmed milk for the undernourished children was supplied, as in the past, by the Social Welfare Department on the recommendations of the School Health Officers. 25,917 school children were recommended for the supply of this free milk for the year as against 13,284 for 1958. More and more Principals are showing an interest in this scheme. In order to prevent any wastage, the Social Welfare Department distributed this milk only to those Principals who were sufficiently interested to see that the children were given the milk daily.

CHAPTER NINE

DENTAL HEALTH

224. The establishment of the Dental Section in 1959 comprised 42 Dental Officers, 12 Dental Nurses (New Zealand type), 8 state-registered Nurses, 41 Chairside Assistants, 21 Dental Technicians and 56 other workers. Almost all the posts had been filled by May 1959, and the number of Dental Officers then stood at 39. However, during the second half of the year after emoluments had been substantially reduced, the number of Dental Officers diminished progressively and by the end of 1959 it was reduced to 31.

225. The work of the Dental Section was maintained at a good level and was divided as follows:—

Clinical Dentistry:—

Schools Division;

Hospitals Division;

Maternal and Child Health Division;

Certain Miscellaneous appointments.

Preventive Dentistry:—

Dental Health Education;

Fluoridation of the water supply.

Clinical Dentistry

226. Dental care for Singapore school-children continued to be provided at 2 Central School Dental Clinics (in the Institute of Health and in Tan Tock Seng Hospital), 4 small dental clinics located at certain schools, and 3 mobile dental clinics. A new dental clinic for school-children was set up during May at Pulau Bukom, an off-shore island covered with oil storage installations of the Shell Company. Three dental clinics located at the Geylang Community Centre, Buona Vista Community Centre and the Siglap Community Centre provided treatment to underprivileged children attending about 12 Children's Social Centres throughout Singapore Island. An increase in the number of attendances on school-children was recorded—

1958	1959
64,354	85,399

227. There was an increasing demand for dental treatment in the hospitals, especially at the Dental Clinic, General Hospital. The chronic sick at Woodbridge Hospital, Trafalgar Home and Tan Tock Seng Hospital were given dental attention by one Dental Officer. Inmates of the Opium Treatment Centre received dental treatment at a small clinic on St. John's Island.

228. In the Maternal and Child Health Division, dental care was provided for expectant and nursing mothers and their pre-school toddlers at 7 dental clinics in Maternal and Child Health Centres. This service was much appreciated and it was found that such mothers were particularly receptive to dental health education. Several miscellaneous institutions continued to receive dental attention. One Dental Officer attended to the Police Force rank and file

and prisoners at Outram Road and Changi Gaols. The Dental Section took over the treatment of prisoners at Outram Gaol in May and that clinic was renovated and re-equipped. Some treatment was provided for inmates of the St. Andrews Orthopædic Hospital, Boys Town, Blind School and the Lee Kuo Chuan Salvation Army Nursery.

Preventive Dentistry

229. Towards the end of 1957 the City Water Engineer announced the fact that the entire municipal water supply in Singapore had been successfully fluoridated, and therefore 1959 marked the second complete year of fluoridation in Singapore. During January and February the annual dental survey in connection with the Fluoridation Scheme was carried out. This annual Survey helps in assessing the efficacy of fluoridation in controlling tooth-decay, and in another three years' time some significant results are anticipated.

230. Two dental health exhibitions were held during the year, the first at the Singapore Constitution Exposition in February/March, and the second at Loyalty Week Exhibitions in early December. Both exhibitions were well attended.

231. The Singapore Government sent two delegates to the W.H.O. Dental Health Seminar held at Adelaide during February/March.

Training of Staff

232. During 1959 a Departmental Fellowship was granted to a Dental Officer to enable him to take up a course leading to the Diploma in Orthodontics Royal College of Surgeons, England.

233. One Dental Officer returned from the United Kingdom in July, having obtained the F.D.S.R.C.S. (Edin.). Another Officer returned from the U.K. in August having undergone a training course at the Eastman Dental Hospital in Children's Dentistry.

234. Toward the end of the year 4 Student Dental Technicians were recruited and they would be required to undergo a 3-year departmental training course in Dental Mechanics.

235. Six Chairside Dental Assistants were now in their final year of a 2-year training course.

236. Two Dental Nurses had returned from Penang after training in November, and another 2 Student Dental Nurses had been recruited in December and would proceed to the Penang Dental Nurses Training School for training in the new year. The Singapore Government had in the meantime planned for a Dental Nurses Training School in Singapore, and provision for setting up such a school was being made for 1960/61.

New Development

237. During the latter half of 1959 the Ministry made a broad survey and reassessment of the public health services, and subsequently made plans for their development in accordance with the Five-Year Plan. In the plan for development of the dental services, top priority was given to the strengthening of the School Dental Service.

238. The main problem was to provide an adequate service for a large and growing school population, and development would have to be phased and would depend on the availability of funds and trained dental personnel. However, during the year a decisive step forward was taken when the Ministry

initiated the establishment of a Dental Nurses Training School at the Institute of Health. Increasing numbers of Dental Nurses would be trained to perform simple routine dental operations under Dental Officers, and in this way an adequate number of trained personnel would be made available to man new school dental clinics all over the state.

239. Other new clinic proposed included one new out-patient Dental Clinic, five Dental Huts, one School Dental Clinic, and a new Central Laboratory for Dental Technicians.

Return of Work in respect of all Clinics

240. A detailed table of returns from all government dental clinics for the whole of 1959 is attached (Appendix A).

241. The annual report put up by the Professor of Dental Surgery in respect of the Dental Clinic, General Hospital is enclosed (Table 50).

WONG MOOK QUI,
Acting Chief Dental Officer.
Singapore.

SINGAPORE, 26th March, 1960.

TABLE 50

DENTAL SERVICES, 1959

RETURN OF WORK

	PATIENTS SEEN				TREATMENT GIVEN								PATIENTS			
	NEW CASES				Re-examined	Total attend-ances	FILLINGS			EXTRACTIONS		Dres-sings (per visit)		Den-tures inserted)	Other treat-ment	Treat-ment com-pleted
	Exa-mined	Requir-ing treat-ment	Refus-ing treat-ment	Silver Amal-gam			Silicate	Other	Deci-duous teeth	Per-manent teeth						
SCHOOLS DIVISION:																
School Dental Clinic, T.T.S.H.	4,491	4,491	130	430	9,731	2,377	10	10,116	5,253	1,221	62	1,800	833			
S.D.C., Institute of Health	740	703	78	172	5,424	1,228	364	10,723	5,522	1,102	32	945	913			
Dental Nurses Clinics ..	864	787	38	2,932	8,396	1,581	178	4,688	843	3,341	7	1,275	1,764			
Mobile Dental Clinics	2,324	3,182	532	1,909	6,945	518	1,451	9,476	1,924	2,58	4	174	865			
Geylang Community Centre	408	408	4	1,924	897	163	27	752	283	39	13	198	230			
Siglap Community Centre	..	..	..	..	1,023	238	20	2,942	1,034	..	48	..	..	
Buona Vista Community Centre	547	547	182	81	611	28	6	1,128	790	57	31	287	5			
HOSPITALS DIVISION:																
Dental Clinic, General Hospital	33,958	33,958	..	67,796	4,603	993	2,064	28,185	33,641	..	1,638	2,578	..			
Dental Officer, Chronic Sick	1,306	1,306	28	4,986	713	139	330	93	6,334	843	149	114	948			
MATERNITY AND CHILD WELFARE DIVISION:																
Bukit Timah and Ama Keng	1,342	1,342	..	..	1,050	235	3	1,464	5,493	204	351	842	220	
Mandai and Yio Chu Kang	1,892	1,892	126	248	502	136	157	2,805	4,062	141	103	166	228			
Jalan Eunus	1,316	1,316	28	5,838	1,189	266	9	1,033	5,909	403	459	1,071	606			
Prinsep Street	731	731	1	1,804	552	305	9	311	2,447	197	193	376	170			
MISCELLANEOUS:																
Police Dental Clinic	605	..	60	..	1,122	111	40	..	2,079	229	132	576	79			
Royal Malaysian Navy	18	18	..	250	381	48	8	6	78	386	24	164	244			
St. John's Island	..	..	..	..	..	..	..	..	1,146	4	..	..	..
Pulau Bukom	183	116	6	..	58	3	21	134	75	5	..	12	..			
Orthodontic Clinic, Institute of Health	683	615	..	2,292	236	..	80	363	345	26	183	676	46			
Total	51,408	51,412	1,213	90,662	43,433	8,369	4,777	74,219	77,258	8,456	3,429	11,254	7,151			

ANNUAL REPORT 1959

DENTAL CLINIC, GENERAL HOSPITAL

SINGAPORE

Government and University activities at the Dental Clinic are difficult to separate since the Dental Clinic is the teaching School of the University of Malaya and this report should, therefore, be read in conjunction with the Annual Report of the University of Malaya.

Staff

The total number of Government dental officers remained almost the same as in the previous year. Mr. George Paul returned from study leave having obtained the F.D.S.R.C.S. (Edin.). The University staff numbered 13. During the year Professor C. H. Graham resigned and Messrs. Lee Ek Chong and Lee Khee Wee returned from study leave having obtained both Fellowships of England and Edinburgh.

General

The details of work undertaken are set out in the attached Tables 51 and 52.

It is to be noted that there was an appreciable increase in the total number of out-patient's visits (101,754) as compared with the previous year (87,293). This increase was due largely to the number of visits by patients for dental extractions (an increase of 9,420) and fillings (an increase of 2,383). Dental extractions were undertaken largely by Government dental officers and the fillings by students under the supervision of University staff. Work on periodontia and orthodontia were undertaken almost entirely by University staff and students; that in prosthetic dentistry largely by students and to a less extent by Government dental officers.

It can be observed, therefore, that the Government dental officers spent the greatest portion of their time on dental extraction. While it is appreciated that this had to be so in view of the heavy public demand and the smallness of numbers of officers available, yet it is a pity that these fully-trained dental officers should have been submitted day after day to the monotony and boredom of dental extractions. However, they are to be commended on their excellent work. It is unfortunate that it was not possible to afford them better opportunities to undertake a wider variety of dental work for which they have been trained. Their duties, other than dental extractions, in prosthetic dentistry, dressings and conservation were too infrequent to provide a sufficient variety in their daily routine and hence to maintain keenness and enthusiasm in their professional work. It is a pity, too, because there is a great public demand for such type of work as conservation, periodontia, orthodontia and much more prosthetic work than that which has been undertaken. These forms of dental work are productive and creative, and those from which the fully trained dental surgeon can derive pleasure and satisfaction.

It is obvious that a decrease in the demand for dental extractions will enable a wider variety of dental treatment being undertaken by the dental officers. This can be effected by the speeding up of Government's policy to decentralise and by providing other centres in the State where both adults and children may receive dental treatment. The need for decentralisation is further emphasised by the observation that more prisoners and other detainees are seeking treatment at this clinic than ever before, and the rush for dental treatment during school holidays is far above that which can possibly be coped with.

With regard to Oral Surgery, there were nearly 13,000 visits by patients requiring such treatment and 887 oral surgical operations performed throughout the year. The work was shared by both Government officers Messrs. Francis Lee and G. Paul since the latter's return from leave) and University staff (Mr. Oehlers and Mr. Goh Soo Wan). While this staff was adequate to cope with the load of work, the physical facilities available for oral surgery were far from adequate and indeed, frustrating for those

concerned. The 13,000 visits and 887 operations were all undertaken within the same cramped space described as the "Oral Surgery Operating Theatre." In the same room, too, extractions under general anaesthesia were undertaken three afternoons a week. Thus the word "asepsis" has no meaning in the "Oral Surgery Theatre." In addition the rejection of our request for a dental ward and the continuance of unsatisfactory arrangements for obtaining beds for patients requiring admission add to the difficulty in the smooth running of the Oral Surgery Unit.

As many as 41,685 patients, all but a few of whom were children, underwent extractions under general anaesthesia during the year. The heavy demand for such treatment necessitated placing such patients in long waiting lists, and the need for decentralisation is again shown in this respect. Further, the need for provision of facilities for post-anaesthetic recovery of such patients is also urgent to avert any possible unfortunate sequelae.

F. A. C. OEHLERS.
Acting Head of Department of Dentistry.

7th January, 1960.

TABLE 51

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NEW CASES		Average Daily Outpatient Attendances				Percentage of Government Servants				Repeat Cases				Total Number of Outpatient Attendances				ADULTS				CHILDREN				ADULTS								Number of Patients					Number of Films																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
		Government Servants	Others	Total	340.1	3.35	67,796	101,754	25,392	33,617	16	24	12,736	17,985	3,541	10,200	Amalgam	Synthetic Porcelain	Acrylic	Inlays	Crowns	Bridges	Gold Foil	Root Fillings	Total of All Fillings	Oral Surgery Operations	Periodontia	Orthodontia	Dressings	Number of Dentures Supplied																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
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TABLE 52
DENTAL CLINIC, GENERAL HOSPITAL

OUT-PATIENTS

YEAR 1959

Nationalities	NEW CASES			Total	REPETITIONS			Total
	Male	Female	Child		Male	Female	Child	
Europeans ..	39	21	14	74	137	209	57	403
Eurasians ..	66	45	66	177	275	199	177	651
Chinese ..	7,043	8,452	12,605	28,100	17,423	23,801	16,670	57,894
Indians ..	1,841	607	591	3,039	3,227	1,096	783	5,106
Malays ..	1,165	728	571	2,464	1,684	1,096	576	3,356
Javanese ..	11	11	6	28	10	3	2	15
Japanese ..	..	..	..	..	..	..	..	..
Others ..	45	16	15	76	153	173	45	371
Total ..	10,210	9,880	13,868	33,958	22,909	26,577	18,310	67,796

CHAPTER TEN

HEALTH EDUCATION

242. The Health Education Section performs an important function in the dissemination of Health Education knowledge. It serves the Health Branch of the Ministry of Health principally and renders assistance to other sections of the Ministry from time to time in various matters on Health Education related to methods, techniques and media.

243. The staff of this Section are the Health Education Officer, two Health Education Assistants and one Technician. Mrs. M. Knight, DIP.SC. B.SC. (Hon). was in charge of the Section.

World Health Day, 1959

244. World Health Day has become a regular part of the time table of this Section. World Health Day was held on April 7th and the theme for the year was "Mental Health." This was a subject which was difficult to present to the public and it was therefore decided to have a full-scale panel discussion for professional members of various departments and of voluntary organisations. A short symposium of 4 talks on "Mental Health" preceded the panel discussion. A small display was also organised by the Woodbridge Hospital in connection with this occasion.

Blood Donation Campaign

245. A major publicity drive to stimulate an increase in the number of blood donors and to break down popular prejudices against the giving of blood was organised by the Ministry. The Health Education Section assisted in the campaign directed to school children and in the poster competition which was organised for school children. One Health Education Assistant was attached to the Blood Transfusion Unit during the period of this campaign for preparation of special centres for this work.

Radio Talks

246. The Singapore Health Education Council arranged a series of talks over Radio Singapore on the subject of Food Hygiene. This was co-ordinated with the theme by the Council to bring about an increased awareness in improved standards of Food Hygiene.

Refresher Course

247. An in-service training course for 20 members of the Institute of Health was organised. A series of 5 lectures and group discussions were held in this training course. Assistance was received from voluntary bodies and the University of Malaya.

Health Education in Maternal and Child Health Clinics

248. A programme of Health Education for ante-natal mothers has been sponsored in Rural Maternal and Child Health Clinics at Bedok, Ulu Bedok, Jalan Eunus, Yio Chu Kang, Lim Ah Pin and Kim Chuan Road.

Exhibitions

1. Singapore Constitution Exposition 9 stalls in the Health Section depicting the type of work of each department.
2. National Loyalty Week ... 1 large display covering the Ministry of Health in co-ordination with other sections on the various services available.
3. Nursing Seminar Display on "Methods of Communication".

Preparation of Health Education Materials

1. A film on Food Hygiene.
2. Pamphlet on Accidents in the Home.
3. Nutrition Poster on 7 basic food groups.
4. Handbill entitled "Now Wash Your Hands".
5. Models of several Malayan foods.

Health Education Council

249. During the course of the year, the Council was dissolved and transferred its funds and assets to the Ministry of Health.

Teaching

250. The Health Education Officer and staff gave formal lectures, demonstrations and held group discussions with post-graduate students of the D.P.H. course, Public Health Inspectors-in-training and Public Health Nurses-in-training.

CHAPTER ELEVEN

EPIDEMIOLOGY

THE 1959 SMALL-POX OUTBREAK

251. On the 15th March, 1959, an 11-year-old Indian boy arrived at Penang on the *State of Madras* from Madras, having developed fever two days earlier. After spending the day sightseeing, the boy left Penang for Singapore by train on 16th March. On the train, he developed a skin eruption. The boy, with his sister, mother and uncle, reached Singapore on 17th March and proceeded to Kampong Alexandra where they stayed. No doctor was called in to treat the boy who was undoubtedly suffering from small-pox. Although this boy was the primary case, he was not discovered until after the first secondary case was admitted to hospital and confirmed as small-pox, nearly a month later.

252. The first secondary case was a case of suspected small-pox transferred from the British Military Hospital to the Middleton Hospital (Infectious Diseases Hospital) on 12th April, 1959. This was a 29-year-old Malay woman who lived a short distance from the house where the primary case had occurred. The diagnosis of small-pox was confirmed on 13th April.

253. On 13th April, a house-to-house search by City Health personnel led to the discovery of the primary case which was now recovering from the attack of smallpox. The following day (14th April), further house-to-house searches led to the discovery of three more cases in Kampong Alexandra, two male Malays aged 46 and 24 years and a 20-year-old female Malay. The same day, a 27-year-old male Indian who had been admitted to Middleton Hospital earlier had been confirmed as small-pox. A 49-year-old male Indian was admitted to Middleton Hospital on 12th April and confirmed as small-pox on 15th April; he died the following day. On 16th April, it was reported that an adult Indian female who travelled on the same ship and also landed in Penang had been discovered in Alor Star in Kedah suffering from small-pox. On 18th April, another case of small-pox—a 39-year-old female Chinese, was discovered in the Kampong Alexandra area. The house in which the patient was found had been searched on three previous occasions. On 28th April, the ninth case, a four-year-old male Malay child, was brought to Middleton Hospital by his parents. The 10th case of the epidemic discovered on 5th May, was a two-month-old male Chinese baby, who lived over 2 miles from Kampong Alexandra—the only case outside the area of the previous cases. The child died six days later on 11th May.

254. A summary of the age, sex and racial distribution of cases during this epidemic is given in Table 53. A comparison of the case-incidence of small-pox among the racial group during different epidemics is given in Table 54.

255. Clinically, of the nine secondary cases, four were classical small-pox, three were confluent and two were modified small-pox. The primary case was probably also classical judged by the picture presented by recovering patient when found.

TABLE 53

AGE, SEX AND RACIAL DISTRIBUTION OF CASES- 1959
SINGAPORE SMALL-POX EPIDEMIC

Race	Under 1 year		1—4 years		5—9 years		10—19 years		20—29 years		30—39 years		40 years and over		Total		Grand Total
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Chinese	1	..	..	..	..	..	..	..	..	..	..	1	..	..	1	1	2
Malaysians	..	..	1	..	..	..	..	..	1	2	..	..	1	..	3	2	5
Indians and Pakistanis	..	..	..	..	..	..	1*	..	1	..	..	..	1	..	3	..	3
Others	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total	1	..	1	..	..	..	1	..	2	2	..	1	2	..	7	3	10

* Primary imported case.

TABLE 54

CASE INCIDENCE OF SMALL-POX IN SINGAPORE

	Malaysians			Chinese			Indians and Pakistanis			Others			Total		
	1935	1946-47	1959	1935	1946-47	1959	1935	1946-47	1959	1935	1946-47	1959	1935	1946-47	1959
Number of cases	65	152	10
Population	572,310	938,144	1,514,900
Cases per 100,000 of the population	11.4	16.0	0.7

256. The primary case gave a history of having been vaccinated at least three times including a successful primary vaccination. The two-month-old infant had not been vaccinated and died from the disease; the four-year-old child had its primary vaccination and was revaccinated at the beginning of the vaccination campaign. In the case of the seven adults, there was evidence of primary vaccination but the history of revaccination was not conclusive.

Control Measures

257. The principal control measures carried out were case finding and isolation, contact tracing and quarantine and mass vaccination.

Case Finding and Isolation

258. After the first secondary case of small-pox was confirmed on 13th April, the city health officer led his staff and with police assistance threw a cordon around the Kampong for an area approximately half mile radius. A systematic house-to-house search was carried out. The searches were carried out daily for another 10 days over a widely circumscribed area around Kampong Alexandra.

259. Of the 10 cases in the epidemic, five were found as a result of house-to-house searches in Kampong Alexandra. Two had been admitted to Middleton Hospital prior to the confirmation of the first secondary case; three went to seek medical attention to doctors and were then discovered.

260. A number of cases suspected as being small-pox were reported by medical practitioners but none of them proved to be so. The public also reported many cases with skin rash but none of these were small-pox.

Contact Tracing and Quarantine

261. Immediate contacts of cases were subject to compulsory vaccination and house quarantine followed by removal the following day to the quarantine station at St. John's Island. A total of 244 contacts were isolated at St. John's Island. No case of small-pox occurred among them. They were isolated for 14 to 16 days. Remote contacts (or outer ring contacts), which term refers to all other persons within the cordoned area, were compulsorily vaccinated. A total of 11,038 were vaccinated during the 11 days that case findings and contact tracing were carried out. The cost of quarantine was nearly \$4,930.

Mass Vaccination

262. The mass vaccination campaign was carried out by the government medical and health department and the city health department. Twelve static centres in the city area and seven in the rural area were in operation, besides three city mobile dispensaries and five rural mobile dispensaries.

263. The static centres used were out-patient dispensaries and maternal and child health clinics. These centres and dispensaries were staffed with the regular staff of the department concerned. The normal therapeutic work done by out-patient dispensaries used as vaccination was suspended; this applied to the mobile dispensaries too. Preventive maternal and child health work was reduced or stopped, as found necessary in such of these clinics used as mass vaccination centres.

264. Some 75 vaccinators—mostly nurses, hospital assistants and public vaccinators—assisted by clerks and attendants were engaged in these vaccination centres. Medical officers of the armed forces and of other government agencies assisted in the vaccination of the civilian population.

265. The response was highly satisfactory; the vaccinators were forced to work at a high pitch. The vaccinations done during the campaign by public vaccination centres are shown in the chart. A total of 1,025,411 was done at these centres. In addition, it is estimated that private medical practitioners did another 100,000 vaccinations making a grand total of 1,125,411 vaccinations.

266. The highest total vaccination for any one day was 179,047. Nearly 72 per cent of the population was vaccinated. Vaccination was voluntary and all those above two months of age were advised to be vaccinated.

267. It was found that the vaccine used during the campaign was potent and satisfactory material. Many examples of persons who were either "immune" or "non-reactors" were found to have a marked reaction. There were a number of severe arm reactions but no serious sequelae were observed.

268. The stock of vaccine held in Singapore on 14th April, 1959, by government and city council consisted of about 10,000 doses, adequate for six weeks' normal requirements. As the vaccination campaign had to get under way immediately, additional supplies had to be rushed to the colony. The Institute for Medical Research, which normally supplies local needs of vaccine, made available 420,000 doses during the period 15th to 18th April, 1959, but were not in a position to meet the total needs of the campaign as the demands of the Federation of Malaya had to be met also. Vaccine was urgently ordered through the World Health Organisation, Manila, from the Public Health Research Laboratories, Manila (which supplied 250,000 doses at approximately 6.2 cents per dose) and the Queen Saovabha Memorial Institute, Bangkok (which supplied 450,000 doses at approximately 4.5 cents per dose). For comparison, supplies from the Institute for Medical Research cost 3 cents per dose. These extra supplies were received between 18th–21st April, 1959. The Government of Vietnam made a gift of 100,000 doses of vaccine lymph. Vaccine from Kuala Lumpur and Bangkok was glycerinated lymph, largely in bulk packings of 500 to 1,000 doses while that from Manila and Vietnam was freeze-dried and had to be made up locally before use.

269. The total number of doses purchased for the campaign was 1.12 million; the cost of this amounted to \$52,130. Including the gift of 100,000 doses, a total of 1.22 million doses were available. Of this, some 318,000 doses were not expended. A considerable amount of economy in the vaccine was achieved by the use bulk packs of vaccine, as a result of which, it was possible to vaccinate 30 per cent to 40 per cent more than the numbers indicated on the packing.

270. The campaign which began on 14th April continued until the end of May. Public response declined by the end of April. Free vaccination was available at the centres until the end of May although the clinics had reverted to normal work.

Other Control Measures

271. Singapore was declared an infected local area by a Government *Gazette* Extraordinary on 14th April, 1959. The World Health Organisation and the Federation Government were informed on 13th April after the case was confirmed.

272. Passengers leaving Singapore by air were subject to inspection and examination of vaccination certificates prior to their departure from the International Airport. Similar checks were made on passengers leaving by sea. At the overland causeway from Singapore to the Federation of Malaya, the Federal Health authorities imposed checks on all travellers entering that country and only those who were in possession of valid vaccination certificates

or evidence of recent vaccination were permitted to enter. Others had to subject themselves to vaccination at the causeway if they wished to proceed. These measures were stringently applied throughout April but with the decline of the epidemic early in May, there was a measure of relaxation in the application of these checks. The checks, however, were not completely withdrawn until Singapore was declared free of small-pox on 1st June, 1959.

Discussion

273. The 1959 epidemic was small in the number of cases (10 cases), short in its duration (2 months), low in its case fatality rate (20 per cent) and localised in its distribution.

274. The racial distribution of the cases was: Chinese two, Malaysians five and Indians three. Six of the 10 patients were males. Only one was an infant, another a child of four years. All the other seven were adults between the age of 20 to 40 years.

275. Of the 10 cases, five were found as a result of house-to-house searches. There is reason to believe that there was concealment of the primary case. The other four cases had been ill for some time and had all developed the rash when discovered.

276. Fortunately, in spite of there being concealment of cases and some lapse of time between the onset of illness and diagnosis and isolation of cases, none of the immediate contacts who were quarantined secondarily developed small-pox. Also, the cases in the epidemic occurred in separate houses in the area; only in one instance did two cases come from the same house. The epidemic was a localised one. Nine out of the 10 cases came from a cluster of huts in the area termed "Kampong Alexandra." In the solitary case that occurred two miles away from Kampong Alexandra, there is indirect epidemiologic relationship to one of the other cases. The solitary case was the last one in the epidemic.

277. The public response to vaccination was explosive. The campaign reached its peak at the end of a week and had markedly declined by the end of the second week. The reaction was almost suggestive of panic, one not justified by the nature of the epidemic; 72 per cent of the population immunised.

278. Singapore and the Federation of Malaya though politically separate territories form a single quarantine unit. There is free movement of travellers between the two territories. Since 1956 when quarantine restrictions were lifted at Penang but continued to be imposed in Singapore, many deck passengers both for Singapore and the Federation of Malaya disembark at Penang and travel overland to their destination. This is exactly what happened with the primary case of the epidemic.

279. The occurrence of the present outbreak might suggest that there is justification in the quarantine practice in Singapore—though contrary to the spirit of the International Sanitary Regulations; that the present outbreak of small-pox might not have occurred as the boy would have been discovered in quarantine. To some extent, this view may be true.

280. It is further suggested that the generally satisfactory level of herd immunity, bolstered up by the mass vaccination campaign was primarily responsible for the small and localised nature of the outbreak.

PARATHION POISONING FROM CONTAMINATED BARLEY

281. On 6th September, 1959, there was admission in rapid succession to the general hospital between 4 p.m. and midnight of children obviously suffering from the effect of some poison or toxin. In all, 13 children and 1 adult were admitted that evening and 1 child was brought in dead. 8 children were in coma on admission or rapidly went into coma; and, of these, 4 died. On questioning the parents, the common factor was undoubtedly barley, which had been bought by all from a single shop. The common method of preparing it was to wash the barley three or four times and then boil in water for about an hour; about 1 cupful of barley to 4 pints of water was used. The clinical features varied according to the amount eaten, but the sequence of events followed much the same pattern. From fifteen minutes to two and a half hours after consuming the barley or barley-water the child felt discomfort in the abdomen, usually vomited, and rapidly went into a pale collapsed state often slipping quickly into coma. In the severe cases the onset was so sudden that the children fell in collapse and coma. There was sweating, excessive salivation, and increased secretions in the lungs, and in some cases, muscle twitching was noticed. At first the pupils were dilated but later became pinpoint. This latter sign indicated a possible para-sympathetic stimulant, so without delay large doses of atrophine were given with dramatic results. The excessive secretions in the lungs rapidly cleared and consciousness slowly improved over a period of hours. After this all cases received atrophine immediately on admission, and only 3 patients died after adequate treatment had been given. At this stage an organo phosphate compound was suspected.

TABLE 55

THE FAMILIES

Family			Number of members involved	NUMBER OF CASES ACCORDING TO SEVERITY		
				Severe	Mild	No symptoms
A	..	..	9	5	3	1
B	..	..	6	1	5	..
C	..	..	8	1	7	..
D	..	..	3	1	1	1
E	..	..	5	..	1	4
F	..	..	6	3	1	2
G	..	..	9	1	7	1
H	..	..	7	1	..	6
Total ..			53	13	25	15

EPIDEMIOLOGY AND CONTROL

282. In all the cases admitted on the first day certain features were significant: (1) all gave a history of having taken barley; (2) many members of a family, nearly all children, were affected; (3) all the cases came from the Queenstown area. The clinical picture of poisoning by a powerful anti-cholinesterase agent pointed to one of the organo-phosphate insecticides. The vehicle through which the poison was transmitted appeared to be barley. Subsequent investigations confirmed both these points.

“Barley-poisoning” Made Notifiable

283. The following morning (September 7) by administrative instruction every case of suspected “barley-poisoning” was made notifiable to the medical superintendent of the General Hospital, who was required to transmit the information to the health authorities immediately for investigation. 47 cases admitted to hospital were so notified during the outbreak (Table 56).

TABLE 56

“BARLEY-POISONING” CASES

Date	Total cases notified (all admitted)	ADMITTED CONFIRMED CASES		Mild poisoning found among admitted cases	Total cases	Deaths
		Severe	Mild			
September 6 ..	18	9	9	15	33	6
September 7 ..	14	3	1	..	4	2
September 8 ..	8	1	..	..	1	1
September 9 ..	5	..	..	..	..	..
September 10 ..	1	..	..	..	..	..
October 1 ..	1	..	..	..	..	..
Totals ..	47	13	10	15	38	9

Breaking the Chain

284. As soon as it was established that barley was the most probable vehicle by which the poison was being transmitted it was decided to take the important step of making the public stop taking any more barley. By the morning of September 7 (sixteen hours after the first case was admitted) it was apparent that cases were not confined to any one area. A full statement on the outbreak was issued by the Ministry of Health at noon; the public were advised not take barley in any form until the investigations were completed. The announcement was given wide publicity and radio broadcasts were interrupted every 15 minutes to repeat it. Vans fitted with loudspeakers

toured the Queenstown area, from which most of the cases came. The statement was published in all local newspapers. The effect of the announcement was threefold:

- (1) Only 1 confirmed case of poisoning occurred after noon on Monday, September 7, compared with 37 cases up to noon.
- (2) All cases admitted to hospital and notified as "barley-poisoning" up to noon were confirmed cases, but 23 out of the 24 cases admitted and notified after the announcement were not confirmed. These cases were the result of a rush to hospital by apprehensive persons who feared that they might be suffering from poisoning.
- (3) No person suspected of "barley-poisoning" gave a history of taking barley after September 7.

Toxicological Investigations

285. Close collaboration with the chemists was maintained throughout. All material (e.g. remains of food taken, barley in households or shops, and postmortem specimens) was submitted for analysis. The toxic agent was identified by them as O,O-diethyl-O-p-nitrophenyl phosphorothionate (parathion), a highly toxic agricultural insecticide.

286. One bag of barley taken from a shop in Queenstown accounted for 29 of the 38 cases and for 7 of the 9 deaths. Analysis showed that concentrations of the parathion varied in different parts of this bag (from 1.8 to 0.44 per cent w/w). The paper lining of the gunny bag showed concentrations of 3.3 per cent at the top end of 0.15 per cent at the lower end. The concentration of the parathion in the barley in this bag was 0.18 per cent.

287. Another contaminated bag of barley found in another shop in the town contain 0.044 per cent of parathion.

288. Reports from the health authorities in the Federation of Malaya established that bags of contaminated barley were found in two towns there.

289. Quantitative analysis of a sample of the left-over cooked barley showed that the parathion content was 6 mg. in 534 g. of barley and water. Although the uncooked barley was found to contain as much as 1,800 mg. parathion per kg., the amount in the cooked barley would be considerably less because of washing and cooking.

Field Investigations

290. District health officers and public-health inspectors of the local health authorities carried out the field investigations. The main lines of investigation were:

- (1) A check on the story given by the patient to the hospital authorities, including detailed information regarding the onset and nature of illness, the meals taken, and others who took the same meals and their condition. Early in the investigation "barley" was suspected, and details of how the barley was prepared and consumed and the name and address of the retailer who sold the barley were obtained. Investigators collected all left-overs of the suspected meals, any other suspected foods, and remains of uncooked barley.

- (2) The retailer's premises in each case (there were 16 of them) were checked for their general condition, details of barley purchases and sales, conditions of storage of barley, and the sales and use of insecticides and/or other poisons. All stocks of barley in the retailers' shops were sealed. Information was obtained about the wholesaler from whom the retailer had obtained his barley.
- (3) At the wholesale dealers (there were 5 of them) the usual check on storage and poisons was made. Existing stocks were sealed and books checked for details of sales—both local sales and re-exports to the Federation of Malaya and Borneo. From details of local sales, further barley stocks were traced and sealed. Details of exports were sent to the health authorities in the Federation and Borneo.
- (4) The information from the wholesalers pointed to one importer. In all cases the evidence pointed to the barley having come from a particular consignment. The importer's warehouse was inspected and barley stocks were sealed. Details of local and export sales were obtained. The suspected consignment of 200 bags had been imported from a West European country by a cargo vessel on 22nd August, 1959. The consignment was stacked with another consignment, also of 200 bags, from the same country imported three days earlier; it was therefore necessary to treat this latter consignment also as suspect.
- (5) Investigations of the discharge of the consignment in the harbour from the ship into lighters (barges) and its transshipment to the importer's warehouse ruled contamination at this point of transit.
- (6) The full cargo manifest and the loading plan for the entire outward voyage of the ship were checked. Full details of the actual storage of the barley consignment in relation to other cargo in hold No. 1 were studied. The findings were not conclusive.
- (7) Investigations regarding the barley at its source in Western Europe and its storage and transport to the port of export were checked through the good offices of the consul of the country, who reported that there was no contamination at the source.

291. From these investigations, the general picture of the outbreak can be pieced together. Some bags of loose pearl barley imported from Western Europe on August 22 by a cargo boat had become contaminated with parathion, which is not available in Singapore. The nature of contamination appeared to be spilling or other localised contact of the barley with some quantity of parathion. The widespread distribution of the bags in three towns established that contamination could not have occurred at local retailers or wholesalers. Contamination could only have occurred at a central source.

292. In view of the substantial interval between the import of the barley and the occurrence of cases, it has not been possible to establish conclusively the point at which contamination occurred. This must remain speculative.

293. Once the picture was pieced together, every effort was made to trace the 400 bags of barley from the two suspected consignments. Except for 3,900 lb. (equivalent of 36 bags) sold loose locally this has been done. This quantity of 3,900 lb. has possibly been sold to small retailers and to householders and, in all probability, has already been thrown away.

294. The barley sealed in shops was subsequently surrendered by the dealers and destroyed. The public were advised to throw away all loose barley in their possession; dealers with stocks the origin of which they did not know were asked to surrender these.

295. All imports of fresh loose barley into Singapore were stopped for nearly three months while local stocks of loose barley were checked. Only when the health authorities were reasonably satisfied that there was no contaminated barley were fresh stocks released into the local market.

PART III
THE HOSPITALS DIVISION

CHAPTER TWELVE

HOSPITALS DIVISION

PHYSICAL DEVELOPMENT

296. The expansion of the hospital and Curative Services showed further progress in 1959.

297. At the General Hospital the 7 Storey Houseman's flats were completed on 15th December, 1959. The conversion of Ward 61 into Burns Unit was completed in January 1959 and officially opened on 1st February, 1959.

298. Repaintings to the Out-patient Department and to Vickers House were completed in April and May respectively. The extension sheds with passage to Out-patient Department, General Hospital was completed in August 1959.

299. At Kandang Kerbau Hospital the reconstruction of Ward block 'E' and of the Central Kitchen, boiler house and bulk store were in progress.

300. The Thomson Road Hospital was completed in 1959 and it was officially opened on 19th May, 1959.

301. At Trafalgar Home a perimeter fence was erected around the Home at a cost of \$10,130.

302. The Mental Defective House at Woodbridge Hospital was completed in early part of the year.

303. During the course of the year the beds available in Government Hospitals in Singapore increased from 6,529 beds to 6,614 beds an increase of 85 beds. There was an actual increase of 436 beds for General Surgical and Mental Cases—40 in General Hospital and 396 in Thomson Road Hospital, but there was decrease of 353 beds in Woodbridge Hospital because the new blocks built since 1957 were earmarked for the chronic hospital and one male ward in the old building was converted into a common dining hall for male patients.

304. The steady increase in the number of patients treated in all Singapore Hospitals which have been recorded every year has been maintained. Table 57 shows the total number treated in the five main hospitals (General Hospital, Kandang Kerbau, Tan Tock Seng, Middle Road and Thomson Road) over the past years.

TABLE 57

PATIENT ATTENDANCES AT MAIN HOSPITALS, SINGAPORE

<i>Year</i>			<i>In-Patients</i>	<i>Out-Patients</i>
1938	...	...	25,913	87,447
1947	...	...	27,514	305,138
1948	...	...	27,367	332,427
1949	...	...	32,998	380,599
1950	...	...	40,164	433,420
1951	...	...	40,833	612,095
1952	...	...	48,550	726,310
1953	...	...	55,420	957,481
1954	...	...	58,859	1,169,689
1955	...	...	62,024	1,271,165
1956	...	...	67,023	1,597,930
1957	...	...	75,253	1,980,929
1958	...	...	81,698	2,162,274
1959	...	...	91,465	2,390,868

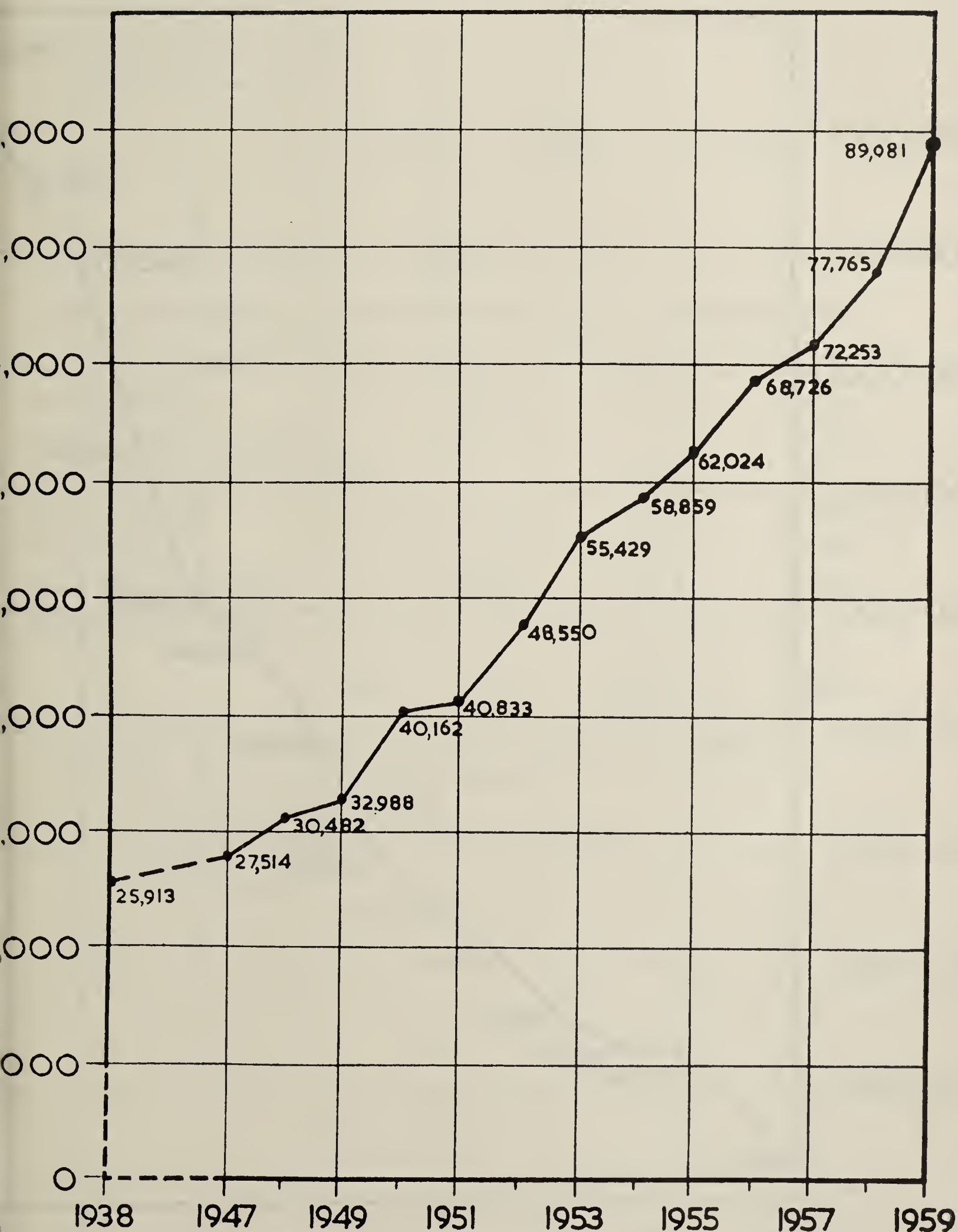
TABLE 58

BEDS AVAILABLE AT VARIOUS GOVERNMENT HOSPITALS

—	Pre-war	1946	1947	1948	1949	1950	1951	1952	1953	1954	19 55	1956	1957	1958	1959
General ..	750	550	550	600	700	700	750	800	800	800	957	1,205	1,182	1,191	1,230
Kandang Kerbau (excluding cots) ..	180	200	220	240	240	240	240	240	240	240	316	316	316	316	316
Tan Tock Seng	600	400	400	550	572	600	540	565	565	564	564	972	938	1,142	1,142
Orthopædic ..	..	60	60	60	65	70	70	78	120	120	120	120	120	120	120
Prisons ..	140	50	50	118	118	140	140	160	160	160	160	160	160	160	160
Social Hygiene (excluding cots) ..	Part of General	60	60	60	68	70	70	70	70	60	65	65	65	65	65
Infectious Disease ..	250	250	250	250	250	250	250	250	250	200	200	250	250	250	250
Leprosy Settlement	200	260	347	382	451	536	640	725	790	642	954	973	973	1,023	1,023
Police Training School ..	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
Mental ..	2,000	440	700	1,000	1,200	1,600	1,800	1,800	1,800	1,800	1,800	1,800	2,040	2,222	1,860
Opium Treatment Centre St. John's Island ..	..	..	..	..	..	..	..	..	..	..	..	20	20	20	20
Thomson Road Hospital ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	390
Total ..	4,140	2,290	2,657	3,280	3,684	4,226	4,520	4,708	4,815	4,606	5,156	5,901	6,084	6,529	6,610

SINGAPORE MAIN HOSPITALS

TOTAL NUMBER OF IN-PATIENTS TREATED



SINGAPORE MAIN HOSPITALS
TOTAL NUMBER OF OUT-PATIENTS TREATED

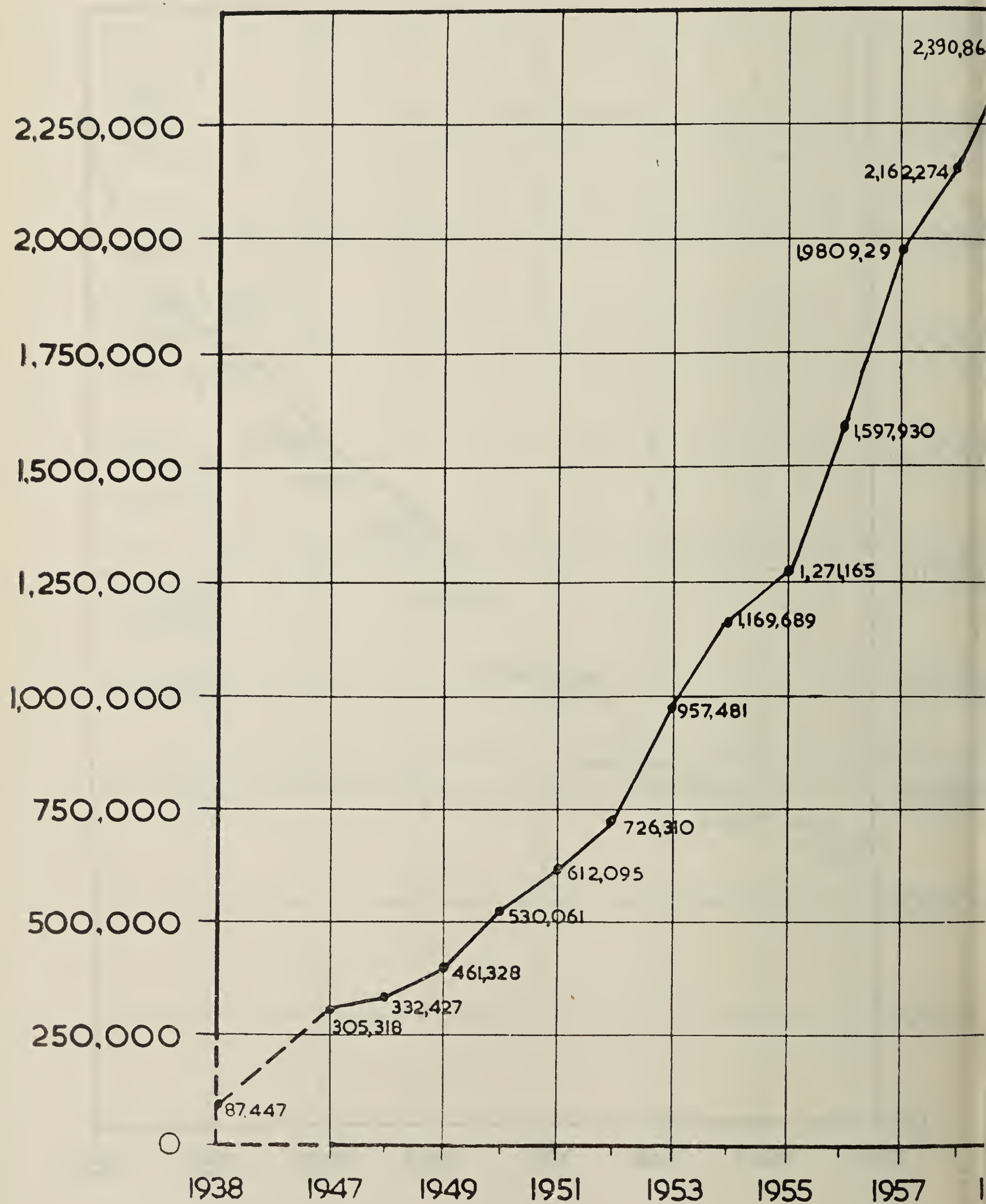


TABLE 59

MAIN HOSPITAL IN-PATIENTS ADMITTED AND TREATED FOR THE YEAR, 1959

<i>Hospitals</i>	<i>Admissions</i>	<i>Total Treated</i>
General Hospital	39,918	40,924
K. K. M. Hospital	44,436	44,736
T. T. S. Hospital	3,362	4,404
Social Hygiene Hospital	1,349	1,385
Thomson Road Hospital	16	16
Total	89,081	91,465

TABLE 60

MAIN HOSPITALS OUT-PATIENT ATTENDANCES FOR THE YEAR, 1959

<i>Hospitals</i>	<i>New Cases</i>	<i>Repetitions</i>	<i>Total Attendances</i>
General Hospital	405,701	785,327	1,191,028
In addition M.O. i/c. Officials	11,712	—	11,712
In addition Dressings and Injections	—	311,538	311,538
K.K.M. Hospital	97,219	176,248	273,467
T.T.S. Hospital	4,122	380,704	384,826
Social Hygiene Hospital	37,658	180,612	218,270
Thomson Road Hospital	27	—	27
Total	556,439	1,834,429	2,390,868

305. The following institutions provide beds for the public:—

- Kwong Wai Siu Free Hospital (Chinese).
- St. Andrew's Mission Hospital.
- Malayan Union Mission of Seven-Day Adventist.
- Hainanese Hospital.
- Kheh Hospital.

TABLE 61

MAINTENANCE CHARGES AT GOVERNMENT HOSPITALS
(DAILY AVERAGE COST)

	Paying Patients (a)	Paying Patients (b)	Free Patients
	\$ c.	\$ c.	\$ c.
General Hospital	26 63	26 35	24 52
Kandang Kerbau Hospital ..	24 93	24 00	22 62
Woodbridge Hospital ..	6 55	6 16	4 81
Trafalgar Home	No Paying Patients	No Paying Patients	3 77
Middle Road Hospital ..	No Paying Patients	No Paying Patients	11 86
Middleton Hospital	No Paying Patients	No Paying Patients	17 40
Tuberculosis Hospital ..	No Paying Patients	No Paying Patients	10 62

TABLE 62

IN-PATIENTS ADMISSIONS FOR THE YEAR 1959

<i>Hospitals</i>	<i>Paying</i>	<i>Free</i>	<i>Total</i>
General Hospital	3,103	36,815	39,918
K.K.M. Hospital	2,688	41,748	44,436
T.T.S. Hospital	—	3,362	3,362
Social Hygiene Hospital ...	—	1,349	1,349
Middleton Hospital	—	3,451	3,451
St. Andrew's Orthopaedic Hospital ...	—	144	144
Thomson Road Hospital ...	—	16	16
Total	5,791	86,885	92,676

Excluding Mental and Leprosy cases, out of the total number of in-patients admitted throughout the year 5,791 or 6.24 per cent were paying cases.

AMBULANCE SERVICE

306. The Ambulance Advisory Committees met as and when required to review the State's requirements in this field.

307. The number of ambulance in use at the various hospitals at the end of 1959 is given in Table 63.

TABLE 63

AMBULANCE IN SINGAPORE, 1959

General Hospital	...	...	...	6
Kandang Kerbau Hospital	...	...	...	8
Tan Tock Seng's Hospital	...	...	...	2
Middleton Hospital	...	...	...	2
Fire Brigade Accident Ambulance Service	...	...	...	10

TABLE 64

AMBULANCE SERVICE

<i>Year</i>				<i>Patients</i>	<i>Mileage Covered</i>
1953	...	...	...	5,725	63,368
1954	...	...	...	7,906	74,542
1955	...	...	...	10,105	102,688
1956	...	...	...	13,268	121,782
1957	...	...	...	16,371	147,539
1958	...	...	...	7,224	112,325
1959	...	...	...	8,533	112,609

CHAPTER THIRTEEN

THE GENERAL HOSPITAL

308. The Civil General Hospital is the major Government Hospital in the State for the treatment of acute Surgical and medical conditions. It is sited on Sepoy Hill and consists of three main blocks: the Bowyer Block, the Stanley Block, the Norris Block. Within the Hospital area are sited the training and hostel accommodation for Nursing Staff (The Nurses' Training School, the New Sisters' Quarters, the Brebner House, Vicker's House and the Nurses Hostel), the New Housemen's Quarters and the institutional quarters for other staff. Associated with the hospital and within the hospital area are the Departments of Dentistry and Pathology.

309. The General Hospital is the main teaching hospital in Singapore for the Faculty of Medicine of the University of Singapore.

Development Programme

310. Seven-Storey Housemen's Flats was completed on 15th December, 1959.

311. Conversion of Ward 61 into Burns Unit was completed in January 1959 and officially opened on 1st February, 1959.

312. Re-painting of the Out-patient Department was completed in April 1959 and re-painting of Vicker's house was completed in May 1959.

313. Extension shed with passage to Out-patient Department, General Hospital was completed in August 1959.

Staff

314. The Staff of the Hospital is shown on Table 65 Dr. Ho Yuen, L.M.S., M.R.C.P. was acting Medical Superintendent during the first part of the year. Dr. Gwee Ah Leng, L.M.S., M.R.C.P. was acting Medical Superintendent during the middle part of the year. Dr. C. Murcus was Medical Superintendent from August.

315. Table 66 give a summary of the work in the Hospital and shows a progressive increase. In-patients treated showed an increase of 4,072 which is an increase of 11 per cent over 1958, Out-patients have increased by 183,964 which is 13.8 per cent increase over 1958. The total number of deaths for the year was 2,692, compared with 2,739 for 1958. The percentage of deaths to the total number of cases was 6.5 in 1959, compared with 7 in 1958, 7.47 in 1957, 7.37 in 1956, 8.21 in 1955.

TABLE 65
STAFF OF GENERAL HOSPITAL AS ON 31ST DECEMBER, 1959

Section	Administrative Officers Superscale	Specialist Officers Grade F	Specialist Officers Grade G	Medical Officers	Housemen	Profes- sors	Senior Lecturer	Lecturers	Sisters	Nurses	Physiotherapists	Occupational Thera- pists	Radiographers	Hospital Assistants	Clerical Staff	Hospital Servants	Dieticians	Almoners	Other Staff
Administration	1	..	..	..	..	..	..	..	..	699	..	1	..	6	31	6	..	1	15
Medical Unit I	6	3	1	1	1	..	..	..	..	..	2	2	45	..	1	12
Medical Unit II	1	6	2	1	1	..	..	..	..	..	..	..	3	49	..	1	..
Pædiatric Unit	2	10	3	..	..	..	..	..	..	..	..	..	4	101	..	2	..
Surgical Unit "A"	1 (Act.)	4	6	1	..	1	..	..	..	..	..	..	1	64	..	1	..
Surgical Unit "B"	2 (1 Act.)	4	4	..	..	..	..	..	..	..	..	..	3	69	..	1	..
Orthopædic "C"	4	2	1	1	1	..	..	..	..	..	..	2	75	..	1	..
Orthopædic "O" (includ- ing Artificial Limb Centre)	..	1	1	5	1	..	..	..	..	50	..	..	..	..	3	2	..	1	9
St. Andrew's Orthopædic Hospital	1 (Act.)	1	..	..	..	..	..	..	..	..	..	..	1	24	53	..	3
Ear, Nose and Throat Unit	3	..	..	..	..	..	..	..	..	..	..	1	31	..	..	..
Ophthalmic Unit	5	..	..	..	..	..	..	..	..	..	1	1	33	..	2	..
Out-Patient and Casualty	1	..	..	16	..	..	..	..	..	..	..	..	..	1	12	24	..	..	7
Radiology	..	1	1	6	..	..	..	..	..	..	16	..	..	..	5	..	..	..	..
Anæsthetic Unit	2 (1 Act.)	5	..	..	..	..	..	..	..	..	..	..	..	10	..	..	..
Phvsiotherapy	14	..	..	..	1	34	3	..	6
Dietitian and Kitchen	1	2	..	..	..
Almoner s Division	2	2	..	2	..

TABLE 66

BED STRENGTH AND PATIENT ATTENDANCES AT GENERAL HOSPITAL

<i>Year</i>			<i>Beds</i>	<i>In-Patients</i>	<i>Out-Patient Attendance</i>
1947	...	...	550	15,021	114,167
1948	...	...	600	14,683	138,801
1949	...	...	700	15,478	153,534
1950	...	...	700	17,886	162,524
1951	...	...	750	19,720	185,131
1952	...	...	800	22,753	358,769
1953	...	...	800	26,219	482,332
1954	...	...	800	27,404	615,588
1955	...	...	957	28,222	691,064
1956	...	...	1,205	32,324	881,742
1957	...	...	1,191	34,623	1,239,281
1958	...	...	1,191	36,852	1,330,314
1959	...	...	1,231	40,924	1,514,278

TABLE 67

BREAKDOWN OF OUT-PATIENTS AT GENERAL HOSPITAL

Nationalities	NEW CASES			Total	REPETITIONS			Total
	Male	Female	Child		Male	Female	Child	
Europeans ..	941	532	454	1,927	1,736	1,510	483	3,729
Eurasians ..	1,871	1,183	899	3,953	3,282	3,019	1,935	8,236
Chinese ..	97,319	94,863	114,190	306,372	215,508	190,574	181,802	587,884
Indians ..	42,130	8,934	10,763	61,827	84,617	23,018	18,829	126,464
Malays ..	15,039	6,963	8,016	30,018	27,460	14,374	12,836	54,670
Javanese ..	91	21	19	131	283	36	17	336
Japanese ..	34	1	4	39	..	..	2	2
Others ..	989	253	192	1,434	2,228	1,397	381	4,006
Total ..	158,414	112,750	134,537	405,701	335,114	233,928	216,285	785,327

TABLE 68

GENERAL HOSPITAL, OUT-PATIENTS, 1959

		<i>New Cases</i>	<i>Repeats</i>	<i>Total</i>
Male Out-patient Department	...	62,187	84,955	147,142
Female Out-patient Department	...	133,817	146,131	279,948
Casualty Out-patient Department	...	72,538	20,641	93,179
Medical Officer i/c Officials (Senior)	...	4,652	10,618	15,270
Medical Officer i/c Officials (Junior)	...	7,679	19,912	27,591
Eye Clinic	...	21,979	84,558	106,537
Surgical O.P.D. "A" Unit	...	15,507	14,545	30,052
Surgical O.P.D. "B" Unit	...	11,383	21,421	32,804
Surgical O.P.D. "C" Unit	...	7,113	21,683	28,796
Surgical O.P.D. "O" Unit	...	4,015	13,203	17,218
Ear, Nose and Throat Department	...	10,521	18,079	28,600
Medical O.P.D. Unit I	...	1,513	31,591	33,104
Medical O.P.D. Unit II	...	2,415	27,547	29,962
Pædiatric O.P.D.	...	3,871	34,289	38,160
Dental Clinic	...	33,958	67,796	101,754
Skin Clinic Up to 16th July, 1959	...	3,345	5,319	8,664
Medical and Surgical Physiotherapy Department	...	8,244	139,079	147,323
Occupational therapy	...	964	23,960	24,924
	Total	405,701	785,327	1,191,028

In addition M.O. i/c Officials	...	11,712	—	11,712
In addition Dressings and Injections O.P.D.	...	—	311,538	311,538

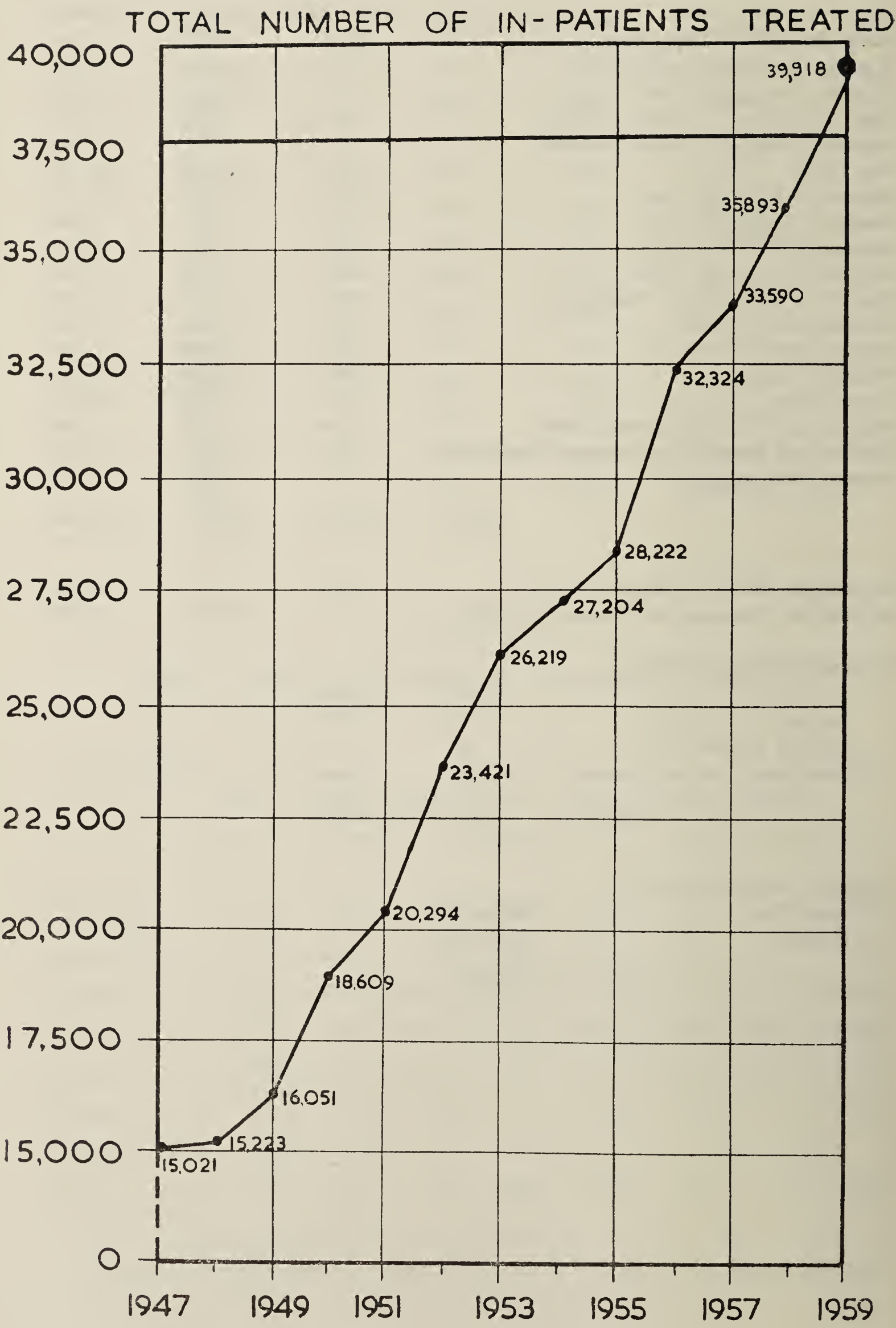
In addition M.O. i/c Officials

	<i>Senior</i>	<i>Junior</i>
Recruits	934	3,115
Medical Boards	82	—
Inoculation and Vaccinations	4,101	3,480
Total	5,117	6,595

Monthly average out-patients

New Cases	...	34,784.42
Repeats	...	91,405.41
Total	...	126,189.83

GENERAL HOSPITAL



GENERAL HOSPITAL

TOTAL NUMBER OF OUT-PATIENTS TREATED

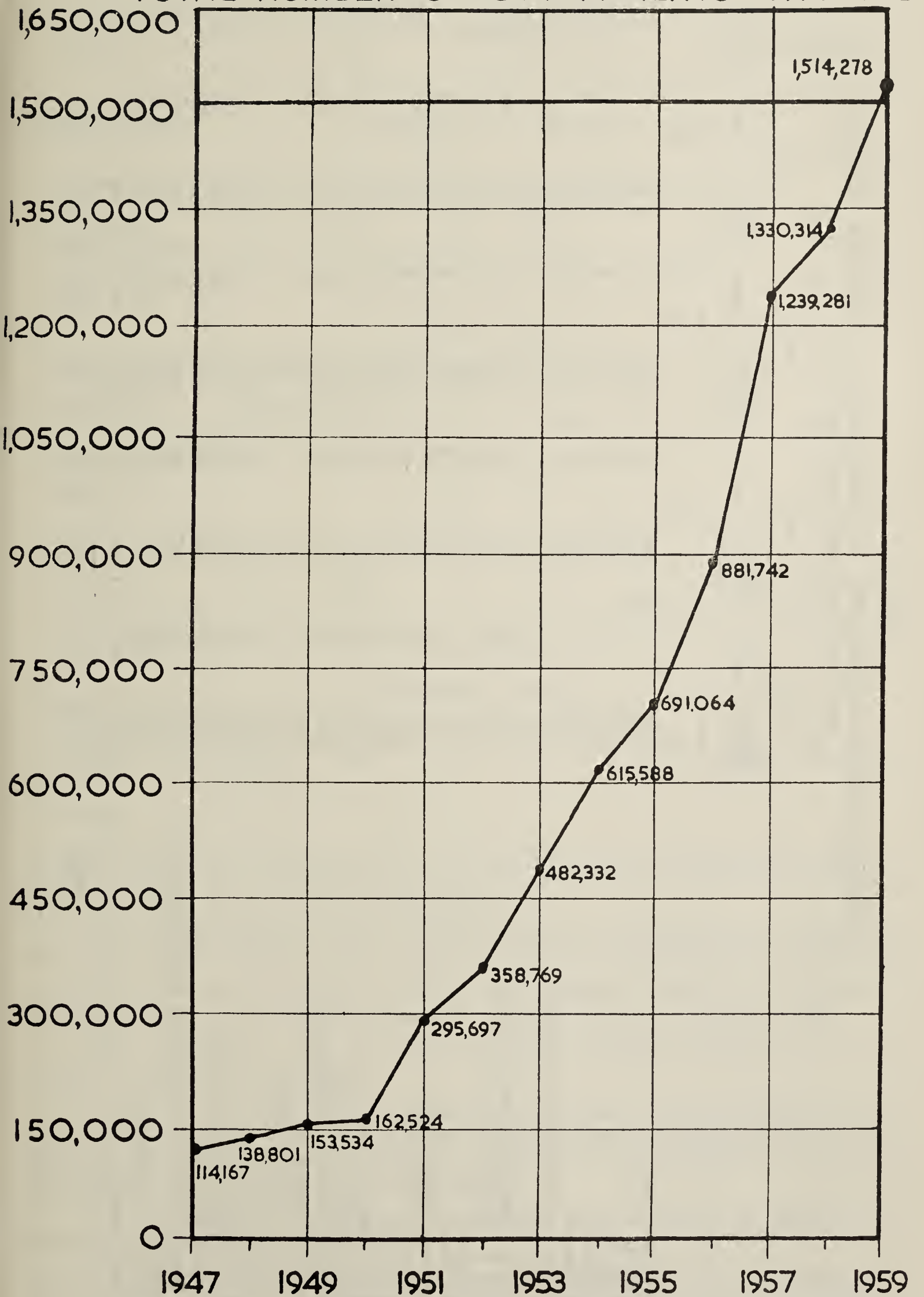


TABLE 69
MAIN CAUSES OF MORBIDITY OF IN-PATIENTS IN GENERAL HOSPITAL
1955, 1956, 1957, 1958 AND 1959

	1955		1956		1957		1958		1959	
	Admis- sions	Deaths	Admis- sions	Deaths	Admis- sions	Deaths	Admis- sions	Deaths	Admis- sions	Deaths
Enteric Group ..	91	6	98	5	105	4	140	4	138	5
Typhus ..	22	..	23	..	23	..	16	..	12	..
Malaria ..	87	4	78	1	51	3	52	1	84	4
Diphtheria ..	20	2	38	8	43	5	36	4	28	5
Influenza ..	30	..	35	..	358	28	23	..	27	..
Dysentery, Diarrhoea and Enteritis ..	1,335	232	1,547	177	1,573	164	2,142	174	2,400	174
Leprosy ..	66	..	45	..	27	1	16	..	22	..
Tuberculosis Respiratory System ..	742	119	944	104	942	103	747	65	660	55
Old Tuberculosis Disease ..	572	121	561	87	546	70	539	40	584	27
Cancer ..	1,070	235	1,462	285	1,636	307	1,823	331	2,083	378
Beri-Beri ..	53	7	30	4	31	4	35	8	55	11
Cerebral Haemorrhage ..	148	100	184	140	187	131	155	123	209	156
Diabetes ..	234	17	214	16	246	19	294	8	348	36
Bronchitis ..	513	16	434	14	334	14	438	7	394	9
Pneumonia all forms ..	1,158	255	1,597	319	1,757	374	1,759	455	1,772	342
Other Respiratory diseases ..	2,308	49	2,239	34	2,628	45	2,625	57	2,199	47
Ulcer of Stomach, Duodenum, etc. ..	675	32	772	16	793	26	913	32	975	15
Ankylostomiasis ..	48	..	84	1	94	..	73	..	80	..
Other intestinal parasites ..	112	3	79	1	90	..	78	3	119	..
Appendicitis ..	1,154	16	1,457	13	1,574	8	1,954	11	1,762	7
Cirrhosis of Liver ..	158	31	243	48	226	52	242	52	325	46
Acute and Chronic Nephritis ..	499	55	604	71	794	82	789	82	874	76
Veneral Affections ..	193	16	195	15	166	24	169	23	141	9
Congenital debility, Malnutrition, Premature Birth, etc. ..	510	79	687	97	689	87	725	123	464	50
Suicidal ..	166	28	123	26	108	29	77	10	102	12
Other forms of Violence ..	1,716	202	3,874	177	3,912	190	4,298	211	4,608	268
Other Diseases ..	11,729	693	13,783	723	14,657	815	15,784	915	19,453	1,019
Total ..	27,418	2,318	31,430	2,382	33,590	2,585	35,892	2,759	39,918	2,692

TABLE 70
UNITS IN GENERAL HOSPITAL

Unit	Head of Unit	Basic Beds
Medical Unit I	Professor G. A. Ransome, F.R.C.P., M.R.C.S.	150
Medical Unit II	Professor E. S. Monteiro, M.D., F.R.C.P., F.R.F.P. and D.C.H. ...	189
Pædiatric Unit	Dr. (Miss) C. E. Field, M.D., M.R.C.S., M.R.C.P.	300
Surgical Unit "A"	Professor G. S. Yeoh, F.R.C.S., M.A., M.B., B.Chir	136
Surgical Unit "B"	Mr. Cohen, F.R.C.S., F.R.A.C.S. ...	143
Surgical Unit "C" Orthopædic	Professor A. G. Karlen, M.D. ...	160
Ear, Nose and Throat ...	Dr. Seow Li Jin, M.B., F.R.C.S. ...	60
Ophthalmic Unit	Dr. Robert Loh, M.B., F.R.C.S., D.O.M.S.	85
Sick Bay	Dr. Robert Loh, M.B., F.R.C.S., ...	8
	Total ...	1,231

THE MEDICAL UNITS

Medical Unit I

316. The Medical Staff, accommodation and equipment remain the same as in the previous year.

Research

317. In the Diabetes Clinic, it was found that Chlorpropamide had a greater potency than tolbutamide, but no other advantage, and in our experience tolbutamide is still the oral drug of choice.

318. A comparative study of triamcinolone and prednisolone in rheumatoid arthritis and other collagen diseases has been completed and published.

319. A study of hepatic cirrhosis was initiated primarily to assess the therapeutic value of corticosteroids and testosterone in a controlled trial.

320. A trial of a new anti-helminthic drug, Vanquin pamoate, was conducted in 100 of these patients.

321. In the Blood Clinic a comprehensive study of the incidence of the various types of leukæmia in Singapore during the ten years period 1949–1958 has been completed. It has been confirmed that the chronic form of lymphocytic leukæmia is very uncommon in Singapore.

322. A group of acquired or congenital heart disease complicated by pregnancy have been studied.

323. The study of the effect of hypotensive drugs in the treatment of hypertension has been continued using various combinations of reserpine, mecamylamine hydrochloride, pempidine tartrate and chlorothiazide.

324. Patients suffering from massive gastro-intestinal hæmorrhage have been studied with special reference to ætiology. Nearly 400 of such patients have been followed since 1954, and a paper on this subject is now in preparation.

325. The mass chest X-ray survey carried out in Singapore for tuberculosis was utilised for heart disease cases findings.

326. During the year the collaborative studies on eosinophilic lung carried out in conjunction with the Department of Tropical Medicine and Public Health, Tulane University School of Medicine were completed and papers covering various aspects of this work have been published or are in print. It has been shown that diathylcarbarnazine for the treatment of this condition is as effective as the previously used organic arsenicals. Although it was found that bancroftian filariasis is endemic in Singapore, this apparently is not significant ætiological factor.

Medical Unit II

327. The number of In-patients remain fairly constant as in the preceeding years, but the attendances at the Out-patient and Specialist Clinics have declined—27,547 attendances this year as against 29,291 in 1958.

328. The Skin Clinic, which occupied a considerable amount of time and effort of the Staff, has been taken over by the Out-patient Services. However, skin cases are still seen in the Unit as “Consultant Cases” from the Out-patient Services.

Research

329. Studies in Angiocardiogram and cerebral arteriography continues.

330. A controlled study of the value of Stellate Ganglion, begun in 1957, has been completed and will be reported.

331. Effect of Chlorpromazine on Epilepsy is being evaluated.

332. Studies of cerebral vasculature and electrocardiography were begun and are being continued.

333. Clinic trial on some drugs has been carried out and completed on Marsilid.

334. Studies of the use of hypnosis was being initiated.

PÆDIATRIC UNIT

335. The bed status of the Mistri Wing remains the same with a total of 273 beds which includes 253 for Medical cases and 20 for Surgical cases.

336. The Pædiatric Unit enjoyed for the first time a Senior Staff of three Specialists, one Registrar and one trainee just returned from England with higher qualifications. There is no doubt, as a result of this increase in Senior Staff, the whole standard of work has risen.

337. The increase in admission continues to rise in 1959. The daily admission rate for 1959 works out at 28.8 persons with an increased turnover of cases. In spite of the rise in admissions, the mortality rate has fallen sharply.

338. Gastro-enteritis remains the cause for the highest number of admissions and pneumonia, the second highest cause, continues to account for the largest number of deaths but the mortality of pneumonia has fallen from 4.54 per cent in 1958 to 3.72 per cent in 1959. There is little change in the mortality rate of gastro-enteritis. There is alarming increase of Leukæmia from 5 cases in 1958 to 50 cases in 1959. Infective Hepatitis continues to increase as also Tetanus. Possibly, as a result of anti-biotic therapy, allergic dermatitis and Thrush have increased. The meningitis continues to fall with a slight fall in mortality rate. The outbreak of parathion poisoning accounts for the 5 deaths from food poisoning.

TABLE 71

SUMMARY OF CASES TREATED IN PAEDIATRIC UNIT

Diagnosis	Admis- sions	Total Deaths	Deaths within 24 hours	%Morta- lity Rate on 10,517 Adms.
Anæmia:—				
Aplastic	1	..	..	..
Hæmolytic	30	4	..	0.038
Rh and ABO Incompatibility	9	..	..	..
Megaloblastic	5	..	..	..
Nutritional and Iron Deficiency	73	2	..	0.019
Others	68	12	7	0.114
Arthritis:—				
Septic	6	..	..	..
Unspecified	5	..	..	..
Asthma:—				
Bronchial asthma	628	6	1	0.057
Asthmatic bronchitis				
Bacterial Endocarditis	12	1	..	0.010
Beri-Beri	25	6	5	0.057
Blood Dyscrasias:—				
Hæmorrhagic Disease of Newborn	20	7	3	0.067
Luekæmia	50	16	5	0.152
Primary Thrombocytopenia	15	..	..	..
Others	27	2	1	0.019
Bronchiectasis and Pulmonary Collapse	23	7	4	0.067
Bronchitis	319	8	5	0.076
Cellulitis:—				
Abscess, Boils, Sepsis	367	4	..	0.038
Cerebral Abscess	6	4	1	0.038
Cerebral Hæmorrhage	29	12	7	0.114
Cerebral Tumor	10	4	4	0.038
Congenital Abnormalities:—				
Heart	213	66	27	0.628
Cleft Palate and Harelip	51	..	..	..
Intestinal Obstruction	24	8	1	0.077
Pyloric Stenosis	8	..	..	..
Phimosis	20	..	..	..
Hydrocephalus and Meningocele	29	5	1	0.048
Others	92	20	11	0.19
Diabetes	3	..	..	..
Encephalitis	183	37	22	0.351
Epilepsy	55	1	..	0.010
Empyema	51	13	4	0.124
Gastro-enteritis:—				
Under 4 weeks	314	59	31	0.561
Over 4 weeks	2,063	163	102	1.55

TABLE 71—continued

Diagnosis	Admis- sions	Total Deaths	Deaths within 24 hours	%Morta- lity Rate on 10,517 Adms.
Head Injury	124	6	4	0.057
Heart Failure	141	33	19	0.314
Hernia:—				
Inguinal	52	..	..	..
Umbilical	4	..	..	..
Others	15	1	..	0.010
Hydrocephalus (acquired)	28	7	3	0.067
Hydronephrosis	4	1	1	0.010
Infective Diseases:—				
Amobiasis	56	1	..	0.010
Bacillary Dysentery	14	3	1	0.029
Chicken Pox	11	..	..	..
Diphtheria	29	4	..	0.038
Measles	59	1	1	0.010
Mumps	4	..	..	..
Poliomyelitis	16	..	..	..
Typhoid	30	..	..	..
Whooping Cough	48	..	..	..
Others	14	..	..	..
Infective Hepatitis	231	20	6	0.19
Influenza	5	..	..	..
Jaundice:—				
Neonatal	121	14	7	0.133
Kernicterus	58	38	5	0.361
Laryngo-Tracheo-Bronchitis	26	1	..	0.010
Liver Cirrhosis	6	2	..	0.019
Lung Abscess	7	5	2	0.048
Lung Cyst .. ..	..	..	..	..
Malaria	13	1	1	0.010
Malnutrition	79	13	6	0.124
Meningitis:—				
Purulent	46	23	10	0.219
Others	42	7	3	0.067
Mental Deficiency:—				
Mental Defect	52	..	..	..
Mongol	48	6	5	0.057
Cretin	10	..	..	..
Cerebral Palsy	25	..	..	..
Microcephaly	10	1	..	0.010
Others	2	..	..	..
Methæmoglobinæmia	10	..	..	..
Naso-pharyngitis and Tonsillitis	1,461	10	2	0.095
Nephritis:—				
Acute	444	7	6	0.057
Nephrotic Sybdrome	95	1	..	0.010
Chronic	8	4	2	0.038
Otitis Media	90	3	1	0.029
Otitis Externa	10	..	..	..
Pneumonia:—				
Under 4 weeks	227	122	61	1.16
Over 4 weeks	1,563	269	180	2.56

TABLE 71—continued

Diagnosis				Admis- sions	Total Deaths	Deaths within 24 hours	% Morta- lity Rate on 10,517 Adms.
Pneumothorax	..	..	..	11	2	2	0.019
Kerosene	..	..	..	32	1	..	0.010
Alkali	..	..	..	21	..	..	..
Food	..	..	..	46	5	..	0.048
Medicine	..	..	..	11	..	..	..
Others	..	..	..	39	..	..	..
Prematurity	..	..	..	33	10	3	0.095
Pyelitis	..	..	..	54	..	..	..
Rheumatic Disease:—							
Arthritis	..	..	..	71	1	..	0.010
Cardiac	..	..	..	92	7	3	0.067
Chorea	..	..	..	3	..	..	..
Rheumatoid	..	..	..	1	..	..	..
Reticulosis	..	..	..	11	1	..	0.010
Rickets	..	..	..	34	1	..	0.010
Scurvy ..	..	..	..	6	..	..	..
Septicæmia	..	..	..	15	14	9	0.133
Skin Disease:—							
Allergic Dermatitis	..	..	..	50	..	..	..
Eczema	..	..	..	17	..	..	..
Impetigo	..	..	..	1	..	..	..
Pemphigus	..	..	..	15	..	..	..
Others	..	..	..	23	..	..	..
Stomatitis:—							
Thrush	..	..	..	94	2	1	0.019
Others	..	..	..	30	..	..	..
Syphilis, Congenital	..	..	..	7	1	..	0.010
Tetanus	..	..	..	50	18	7	0.171
Tuberculosis:—							
Pulmonary	..	..	..	101	9	5	0.086
Meningitis	..	..	..	45	13	1	0.124
Abdominal	..	..	..	8	1	..	0.010
Bone and Joint	..	..	..	8	..	..	..
Glandular	..	..	..	10	..	..	..
Disseminated (Miliary)	..	..	..	15	7	4	0.067
Others	..	..	..	20	..	..	..
Tumour (Miscellaneous)	..	..	..	33	3	1	0.029
Worms:—							
Ankylostomiasis	..	..	..	54	..	..	..
Ascariasis	..	..	..	96	9	8	0.086
Trichuriasis	..	..	..	16	3	2	0.029
Others	..	..	..	39	..	..	..
Miscellaneous (General)	..	..	..	1,192	66	24	0.628

THE SURGICAL UNITS

339. The volume of Surgical work continues to increase. The total number of operations during the year was 49,606, an increase of 8,800 over the previous year. This represents an increase of about 18 per cent.

340. The Graph (III) shows the increase in Surgical admission and operations that have been occurring from year to year. Table 72 gives a return of operation done in the Surgical Units.

341. The year continues to show increasing demands on the operating theatres and wards. Out of the total number of increase of 8,800 operations in the year, 7,911 are due to increase in minor operations.

342. Surgical 'C' Orthopædic Unit was officially designated as an entity in April 1959. The work during the first 3 months was recorded as a sub-section of Surgical 'C' Orthopædic Unit.

343. Burns Unit was opened in February 1959 with Post-Polio Cases and since 11th March, 1959 the Ward was occupied by Burn Cases only. During the year there were 666 Burn Cases admitted to this Unit.

344. In addition to the work at the General Hospital, the Staff of the Orthopædic Units are responsible for the Orthopædic Cover at:—

- (i) St. Andrew's Orthopædic Hospital at Siglap with approximately 120 beds;
- (ii) A Ward at Middleton Hospital with approximately 40 beds for the treatment of late cases of Poliomyelitis;
- (iii) A Ward at Tan Tock Seng Hospital with 60 beds where adult Bone and Joint Tuberculosis cases and paraplegia cases are kept;
- (iv) Red Cross Home, Tanah Merah with 20 beds for Crippled Children.

ST. ANDREW'S ORTHOPÆDIC HOSPITAL, SIGLAP

345. The staff of the Hospital consists of a resident Medical Officer, 1 Matron, 2 Sisters, 2 Staff Nurses, 20 Assistant Nurses and 1 Hospital Assistant and Dr. E. Crowe, M.B., B.S., F.R.C.S. was the resident Medical Officer.

346. The number of beds (for children up to 14 years) is 120. There were 68 male and 76 female patients admitted during the year.

347. In April (during the outbreak of Small-pox in Singapore) all the patients were vaccinated, as well as all numbers of the staff and their families. the Wards being closed to all unvaccinated visitors—the hospital was again closed to visitors (except parents from 24th May till 24th August when there were 9 cases of measles, all treated in Middleton Hospital.

348. The older children continues to have school five mornings a week and weekly divertional therapy, as well as regular visits from voluntary workers who teach them singing, percussion-band playing, Scout-lore, etc.

349. The annual concert was held on 18th December. The Minister for Health came and was welcomed by the Bishop.

EAR, NOSE AND THROAT UNIT

350. With the arrival of the operating microscope and other instruments in the year, the work on micro-surgery began in earnest and the cases of otosclerosis, chronic suppurative diseases of the ear, etc. have been tackled with vigour and with fairly good results. With the inclusion of micro-surgery in the work of the Unit, we are keeping abreast with the foremost Ear, Nose, Throat Centre of the world.

351. A summary of the work of the Unit is given in Table 73.

GENERAL HOSPITAL

OPERATIONS AND ADMISSIONS TO SURGICAL UNITS

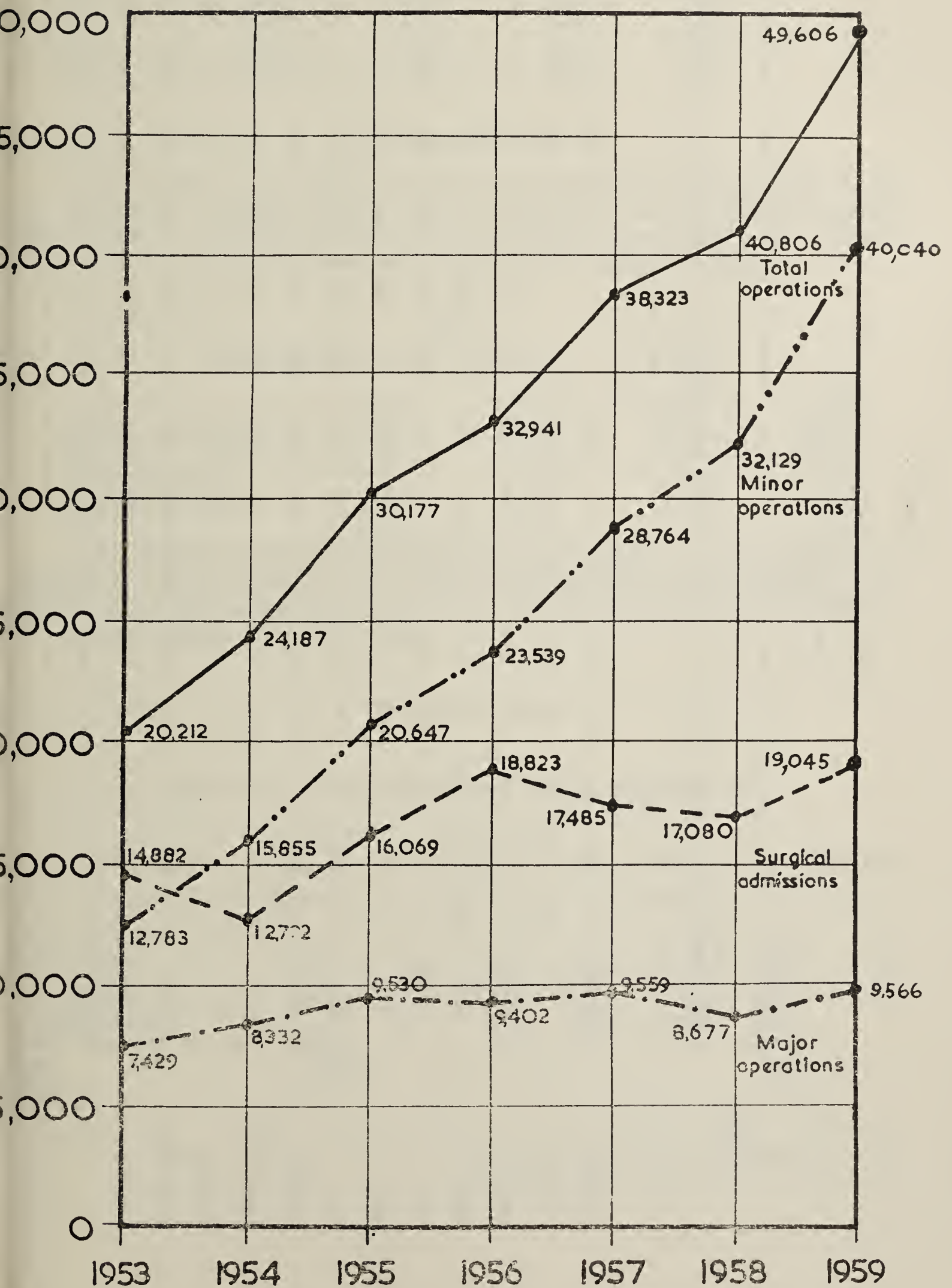


TABLE 72
GENERAL HOSPITAL, SINGAPORE
OPERATIONS FOR THE YEAR, 1959

Month	SURGICAL "A" UNIT			SURGICAL "B" UNIT			SURGICAL "C" UNIT			SURGICAL "O" UNIT			OPHTHALMIC UNIT			EAR, NOSE AND THROAT UNIT		
	Major	Minor	Total	Major	Minor	Total	Major	Minor	Total	Major	Minor	Total	Major	Minor	Total	Major	Minor	Total
January ..	224	577	801	237	438	675	153	1 341	1,494	..	..	..	85	537	622	71	179	250
February ..	226	530	756	160	503	663	124	1,530	1,654	..	..	..	75	530	605	69	185	254
March ..	252	562	814	219	572	791	84	666	750	68	774	842	77	593	670	82	176	258
April ..	201	609	810	241	466	707	85	683	768	74	697	771	97	570	667	134	193	327
May ..	229	726	955	253	547	800	76	644	720	69	680	749	101	647	748	116	214	330
June ..	224	737	961	170	694	864	58	625	683	68	696	764	107	698	805	107	214	321
July ..	252	874	1,126	196	728	924	86	755	841	60	857	917	135	741	876	99	200	299
August ..	259	706	965	255	600	855	60	664	724	50	727	777	109	635	744	70	179	249
September ..	319	560	879	227	515	742	91	670	761	68	620	688	96	723	819	66	138	204
October ..	276	539	815	217	507	724	82	713	795	52	681	733	164	509	673	82	211	293
November ..	222	597	819	216	421	637	53	658	711	40	707	747	130	690	820	106	215	321
December ..	259	602	861	243	439	682	66	727	793	51	111	162	107	594	701	86	194	280
Total ..	2,943	7,619	10,562	2,634	6,430	9,064	1,018	9,676	10,694	600	6,550	7,150	1,283	7,467	8,750	1,088	2,298	3,386

TABLE 73

EAR, NOSE AND THROAT UNIT—SUMMARY OF WORK

Year	Out-Patients		Operations		Emergencies
	New Cases	Repeats	Major	Minor	
1952	4,126	10,541	1,186	939	
1953	5,492	10,806	1,686	1,008	
1954	6,642	12,139	2,042	1,217	
1955	8,675	21,500	2,414	1,807	
1956	9,563	19,228	1,855	1,815	
1957	11,279	21,627	1,488	2,796	
1958	12,526	18,480	1,158	2,563	73
1959	10,521	18,079	1,018	2,298	70

OPHTHALMIC UNIT

352. There was a great increase in the attendances at the Clinic during the year. The number of new cases was 21,979 and 84,558 of repeated attendances as compared with 19,311 and 70,904 respectively in the previous year. Table 74 shows the summary of work done during the year.

TABLE 74

OPHTHALMIC UNIT—SUMMARY OF WORK

	1956	1957	1958	1959
Number of new cases ...	17,215	17,563	19,311	21,979
Number of repeat cases	44,428	54,714	70,904	84,558
Major operations ...	908	1,013	824	1,283
Minor operations ...	2,659	2,850	3,676	7,467

353. During the year investigation on the pattern of Conjunctivitis in Singapore were conducted and further investigations into Glaucoma were carried out. Experimentation on the use of X Chymotrypsin and the evisophate in cataract surgery were also made.

ANÆSTHETIC UNIT

TABLE 75

ANALYSIS OF ANAESTHETICS ADMINISTERED 1959

Unit	General Anes.	Spinal	Local Anaes.	Major	Minor	Total	Chest
"A" Theatre ..	3,241	763	2,116	2,943	3,177	6,120	155
"B" Theatre ..	2,647	640	1,695	2,429	2,553	4,982	70
"C" Theatre ..	2,305	14	4,525	1,598	5,246	6,844	..
Kandang Kerbau ..	7,183	294	168	1,650	5,995	7,645	..
Ear, Nose and Throat	1,008	..	1,994	1,018	1,984	3,002	..
Eye ..	236	..	..	..	..	236	..
Dental ..	3,557	..	..	..	..	3,557	..
Total ..	20,177	1,711	10,498	9,638	18,955	32,386	225

Clinical Trial

354. Halothane was administered more often and only its prohibitive cost prevents it from rapidly becoming a routine agent.

SKIN CLINIC

355. The Skin Clinic was run under the direction of Dr. Khoo Oon Teik, M.D., M.R.C.P., F.R.F.P.S.

356. Cases were seen in the Skin Clinic until July 1959 when it was decided that, due to shortage of staff and pressure of work to refer skin cases to Middle Road Hospital. However, skin cases are still referred to the Unit for consultation by the Out-patient Clinics.

357. The total number of attendances seen between January and July 1959 number 8,664. This includes 3,345 new cases.

358. In-patient cases have in the majority been treated in Medical Unit II.

359. The eczema dermatitis group continued to be the main condition seen, followed by seborrhoeic affection. Pyogenic conditions were also common. As has been the case in all the years that the Skin Clinic has been in existence, leprosy cases continues to be seen quite frequently. These cases are sent to the Skin Clinic of Trafalgar Home for treatment. Psoriasis, Lupus erythematosus and lupus vulgæis are not uncommon.

DIETETIC SECTION

360. The average daily cost of food supplied is listed below:—

			\$	c.
(i) Paying patients (a)	...	...	3	18
(ii) Paying patients (b)	...	...	2	90
(iii) Child patients	...	...	1	00
(iv) Non-paying patients	...	...	1	07

PHYSIOTHERAPY DIVISION

361. During the year 8,244 new cases and 139,078 repeat cases were treated compared with 9,681 new cases and 136,781 repeat cases in 1958. There is a slight increase in the numbers treated in the year compared with the previous year. The slight drop in the numbers of new cases in the year is mainly due to the fact that in 1958 there was a Polio Epidemic.

OCCUPATIONAL THERAPY

362. During the year, total number of visits to patients in the Wards by Occupational Therapist were 18,306 and total number of patients attendances to the Department were 23,960.

ALMONERS' DIVISION

TABLE 76

SUMMARY OF WORK OF ALMONERS' DIVISION 1959

	<i>Cases</i>
Almoner, Medical Unit I	1,004
Almoner, Eye Clinic	575
Almoner, Medical Unit II	1,071
Almoner, Radiotherapy and E.N.T. Units ...	330
Almoner, Surgical Units 'A' and 'B'	1,062
Almoner, Orthopædic Unit 'C'	1,575
Almoner, Orthopædic Unit 'O'	1,125
Almoner, Paediatric Units—'East' and 'West' ...	1,105
Almoner, Out-Patient Department	1,206
Almoner, Rural Clinics:—Kallang	302
Jalan Teck Whye	205
Pegu Road	369
Bukit Timah	119

363. These figures show an increase over the number of patients seen by the almoners in each Unit in 1958.

DENTAL CLINIC, GENERAL HOSPITAL

364. The Dental Clinic at General Hospital is the only Out-patient Dental Clinic attending mainly to the needs of the poorer sectors of the population in the whole of Singapore.

365. The Dental Clinic at General Hospital has been an Out-patient Clinic as well as a teaching centre since its inception. During the year, the number of Government Dental Officers remained almost the same as in the previous year. The University staff number 13.

366. This year there was an appreciable increase in the total number of Out-patients' visits (101,754) as compared with the previous year (87,293). This increase was due largely to the number of visits by patients for dental examinations and fillings.

367. Table 77 shows the summary of work carried out by the Dental Clinic, 1951–59.

368. Dental extractions were undertaken largely by Government Dental Officers and the fillings by students under the supervision of University staff. Work on periodontia and orthodontia were undertaken almost entirely by the University staff and students, that is prosthetic dentistry largely by students and to a less extent by Government Dental Officers.

TABLE 77
SUMMARY OF WORK DONE BY DENTAL CLINIC, 1951—1959

Year	Total New Cases	Total Out- Patients	Daily Average	Extrac- tions	Oral Surgery Operations	Fillings	Dressings	Dentures	X-Rays	Revenue
1951	7,149	29,168	106.06	22,973	..	3,490	12,556	1,457	3,571	\$ 29,125 65
1952	10,054	37,988	138.11	27,933	..	5,913	10,393	1,223	4,498	31,126 67
1953	14,444	50,449	183.42	51,972	..	6,006	31,604	1,726	6,298	44,535 59
1954	21,525	63,469	231.20	71,715	..	6,859	44,641	2,092	6,596	53,842 84
1955	27,895	82,107	278.74	83,392	847	6,039	52,201	1,873	6,761	34,738 85
1956	32,547	99,004	334.47	82,175	898	6,741	63,338	2,348	9,137	36,341 94
1957	36,508	107,700	362.05	67,785	646	9,048	64,018	2,304	10,683	32,068 65
1958	25,770	87,293	291.03	53,701	755	5,277	23,315	2,025	15,498	21,954 50
1959	33,958	101,754	340.1	61,826	887	7,660	20,314	1,638	16,610	22,368 10

CHAPTER FOURTEEN

THOMSON ROAD HOSPITAL

369. This Hospital, though formally opened in May 1959, was not ready for the admission of patients until November 1959.

370. The Hospital serves as a District Hospital and plans were put in hand to provide Surgical Theatres and Ancillary Services; these were left out of the original plan (for a Chronic Hospital). The Hospital is expected to be a fully functioning District Hospital in 1960.

371. 16 patients were admitted from November to end of December.

CHAPTER FIFTEEN

OUT-PATIENT DISPENSARY SERVICE

372. This Report covers the static and mobile dispensary services of the Island. During the year under review a total of 2,161,042 cases were recorded from the various Clinics; 574,518 were new cases and 1,586,524 were repetitions; of these 73 per cent were Chinese, 13 per cent Indians, 12 per cent of Malays and the balance of 2 per cent between Europeans, Eurasians and other nationalities.

373. The staff, Clinic Sessions, and distribution of Out-patient Services is given in Table 80 Dr. Toh Chiong Hieng, L.M.S. (Singapore) was in charge of the Service.

GENERAL HOSPITAL: OUT-PATIENT AND CASUALTY UNITS

374. During the year, there was a sharp rise of Out-patient attendances in June and July; from 2,500 to 3,500 per day. Certain measures were taken to provide more accommodation for patients as well as for staff working space, and the following were effected between June to August:—

- (i) A temporary shed was constructed in the courtyard to provide space as first waiting place and for registration of patients.
- (ii) The Skin Clinic was shifted to Middle Road Hospital.
- (iii) The Psychiatric Clinic was shifted to Bowyer Block, Flat No. 1, at General Hospital.
- (iv) The Medical Report Section and the Hospital Case Record Section were shifted to Ground Floor of Bowyer Block, General Hospital.

TABLE 78

	NEW CASES			REPEAT CASES			Total
	Male	Female	Children	Male	Female	Children	
Out-patient Department	62,187	64,030	69,787	84,955	70,967	75,164	427,090
Casualty Department	40,255	11,566	20,719	11,846	2,692	6,103	93,181
Treat/Dressings ..	..	..	..	..	..	..	311,764
Admissions ..	..	..	..	..	..	..	40,985
Total ..	102,442	75,596	90,506	96,801	73,659	81,267	873,020

375. Comparative figures from previous years as follows:—

1953	...	...	339,238
1954	...	...	466,904
1955	...	...	509,053
1956	...	...	517,669
1957	...	...	625,839
1958	...	...	732,878
1959	...	...	873,020

General Out-patients

376. 427,090 were recorded in 1959 against 323,725 in 1958, an increase of 103,365. 585 persons were examined for assessment of age from the Labour Department, Commissioner for Registration, Immigration and Police Departments. 694 male and 213 female positive Tuberculosis cases were detected and referred to Tan Tock Seng Hospital.

Casualty Room

377. 93,181 casualties were seen in 1959 against 81,851 in 1958, an increase of 11,330.

	1955	1956	1957	1958	1959
Road Accidents	4,010	4,047	4,790	5,760	6,964
Examination for Alcoholic Intoxication	967	1,035	1,082	1,319	1,563
Rape and other sexual offences	74	53	56	67	45

Treatment and Dressing Rooms

378. This section undertake the dressing and treatment of the Out-patient and Casualty Units, Skin Clinic, Surgical and Medical Out-patient Units of the General Hospital and Injections of Streptomycin of Tuberculosis out-patients cases from the Tan Tock Seng Hospital.

379. During the year under review 311,764 treatments were done, an increase of 19,817 from the previous year of 291,947.

Laboratory

380. 21,809 routine specimens were examined during the year.

Urine	...	...	12,041
Blood	...	...	6,293
Fæces	...	...	2,823
Swabs	...	...	652
Total	...	...	21,809

Kallang Outdoor Dispensary

381. This Out-patient Clinic functions every morning except Sundays and Holidays. The Tuberculosis Clinic functions in the afternoons from Monday to Thursday, and Psychiatric Clinic and School Clinic function on Friday afternoons.

382. During the year, 197,165 patients were seen.

Paya Lebar Outdoor Dispensary

383. The adjacent old Post Office building was acquired in 1959 and after renovation and alterations, it was opened in August as extension to the existing Clinic building.

384. During the year, 148,568 patients were seen.

Pegu Road Outdoor Dispensary

385. This new Clinic building was completed at the end of 1958 and the Clinic was officially opened on 23rd January, 1959.

386. During the year, 137,217 patients were seen.

Pasir Panjang Outdoor Dispensary

387. During the year, 46,862 patients were seen.

Bukit Panjang Outdoor Dispensary

388. The new Bukit Panjang Clinic building was completed in January and this new Clinic was officially opened on 9th March, 1959.

389. During the year, 146,567 patients were seen.

Bukit Timah Outdoor Dispensary

390. This Clinic is housed in the Maternity and Child Health Clinic at Bukit Timah. The Primary function of the Clinic is to continue treatment of patients resident in this area, who have been discharged from the hospitals. A total of 59,026 attendances were recorded.

Kandang Kerbau General Out-patient Unit

391. This Clinic is for women and children only.

392. During the year, 35,474 women and 61,974 children attended the Clinic.

Pulau Brani Clinic

393. This Clinic is situated at the island of Pulau Brani. During the year, 10,879 patients were seen.

Pulau Tekong Clinic

394. This Clinic is situated at the island of Pulau Tekong.

395. During the year, 7,825 cases were recorded.

Rural East Dispensary Service

396. The total attendances at the General Out-patient Clinics is shown below:—

Changi Point Clinic	...	...	5,181
Kampong Batak Clinic	...	...	4,937
Gulega Road Clinic	...	...	4,272

397. These General Out-Patient Clinics are housed in the Maternity and Child Health Clinics and function on sessional basis.

Thomson Road Outdoor Dispensary

398. This Clinic is situated at 5½ milestone, Thomson Road.

399. During the first half of the year, the Clinic functions on Mondays and Fridays only. Since June, the Clinic opens full-time.

400. During the year, 53,167 patients were seen.

Holland Road Clinic

401. During the year, 7,586 patients were seen.

Mobile Dispensary Service

402. Four Travelling Dispensaries, each with a Hospital Assistant visit Rural Areas and attend to minor illness. During the year, 167,755 attendances were recorded.

403. Two Floating Dispensaries are operated by the Government Health Division. Both of them are staffed by Hospital Assistants. One of the floating dispensaries carried in addition a Mobile Maternity and Child Health Team. During the year, 5,883 attendances were recorded.

404. The Out-patient Attendances at the General Hospital Out-patient Clinic, Outdoor Dispensaries and Mobile Dispensaries over the past 5 years are given in Table 79.

TABLE 79

ATTENDANCES AT STATIC AND MOBILE CLINICS—1955—59

	1955	1956	1957	1958	1959
General Hospital Out-patient and Casualty Units ..	509,053	517,669	625,839	723,878	873,020
Kallang Outdoor Dispensary ..	..	..	43,978	169,897	197,165
Paya Lebar Outdoor Dispensary	38,420	53,082	74,171	115,503	148,568
Pegu Road Outdoor Dispensary	..	..	..	..	137,217
Pasir Panjang Outdoor Dispensary .. ..	..	..	2,340	23,371	46,862
Bukit Panjang Outdoor Dispensary	13,160	22,890	27,882	57,751	146,567
Bukit Timah Outdoor Dispensary	24,812	18,415	25,722	44,546	59,026
Kandang Kerbau Female Out-patient Clinic	64,953	84,097	94,728	93,368	124,181
Pulau Brani Clinic ..	..	..	..	8,793	10,879
Pulau Tekong Clinic ..	..	..	8,022	7,207	7,825
Rural East Clinics ..	13,494	9,647	10,961	10,862	14,390
Thomson Road Outdoor Dispensary	11,251	15,283	17,088	34,267	53,167
Holland Road Clinic ..	6,532	5,465	4,441	10,928	7,586
4 Travelling Dispensaries ..	76,381	77,068	78,436	122,107	167,755
2 Floating Dispensaries ..	3,548	5,150	6,585	7,261	5,883
Total ..	761,604	808,766	1,020,193	1,429,739	2,000,091

TABLE 80

STAFF, CLINIC SESSIONS AND DISTRIBUTION OF OUT-PATIENT DISPENSARIES

Clinics	Sessions	Medical Officers	Pharmacists	Sisters	Nurses	Nurses (Men)	Hospital Assistants	Laboratory Assistants	Dispensing Assistants
General Hospital Out-patient and Casualty Units	Out-patient: 8 a.m.—4 p.m. Casualty and Emergency Out-patients: 24 hours' service	16	..	2	14	13	1	..	..
Kallang Outdoor Dispensary ..	Morning Sessions ..	4	1	1	3	..	1	1	1
Paya Lebar Outdoor Dispensary ..	Morning and afternoon Sessions	2 (full-time) 1 (part-time)	..	..	2	..	1	..	..
Pegu Road Outdoor Dispensary ..	Morning and afternoon Sessions ..	2 (full-time) 1 (part-time)	1	..	3	..	1	..	1
Pasir Panjang Outdoor Dispensary	Morning and afternoon Sessions (except Wednesdays morning)	1	..	..	1	..	1	..	..
Bukit Panjang Outdoor Dispensary	Morning and afternoon Sessions ..	2	1	..	2	..	..	..	1
Bukit Timah Outdoor Dispensary	Morning and afternoon Sessions ..	Part-time work by M.O. Bkt. Panjang	..	..	1	..	1	..	..

TABLE 80—continued
STAFF, CLINIC SESSIONS AND DISTRIBUTION OF OUT-PATIENT DISPENSARIES—continued

Clinics	Sessions	Medical Officers	Pharmacists	Sisters	Nurses	Nurses (Men)	Hospital Assistants	Laboratory Assistants	Dispensing Assistants
Kandang Kerbau General Out-patient Unit	Morning and afternoon Sessions	2	..	..	1	..	..	..	..
Pulau Brani Clinic ..	Morning and afternoon Sessions	..	..	..	..	..	1	..	..
Pulau Tekong Clinic ..	Morning and afternoon Sessions	Part-time work by M.O. Changi Prison	..	..	..	..	1	..	..
Rural East Dispensary Services ..	Changi Point: 2 afternoon Sessions weekly	do.	..	..	..	..	Part-time work by H.A. i/c Travelling Disp.	..	..
	Kampong Batak: 2 afternoon Sessions weekly	do.	..	..	..	..	do.	..	..
	Gulega Road: 1 afternoon Sessions weekly	do.	..	..	..	..	do.	..	..
Thomson Road Outdoor Dispensary	Morning and afternoon Sessions	1	..	..	2	..	1	..	..
Holland Road Outdoor Dispensary	Once weekly morning Session	1	..	..	1	..	1	..	..

CHAPTER SIXTEEN

TUBERCULOSIS SERVICE

TUBERCULOSIS CONTROL UNIT

405. Dr. C. E. Smith, O.B.E., Assistant Director of Medical Services (Tuberculosis) was largely responsible for the establishment of the Tuberculosis Control Unit. Following his retirement from service from July, this year, Dr. Wong Hin Sun was in full charge of the Department and has been Acting Assistant Director of Medical Services (Tuberculosis) since 1st June, 1959.

Staff

406. Staff consisted of Assistant Director of Medical Services (Tuberculosis), 2 Medical Officers, 1 Registrar, 1 Sister, 15 Staff Nurses, 8 female Assistant Nurses, 1 Laboratory Technician, 2 Laboratory Technicians in-training, 6 Clerks and 2 Junior Photographic Assistants.

Legislation

407. At the instance of the Minister for Health, draft legislation for the introduction of compulsory B.C.G. vaccination for:—

- (a) Newborn infants.
- (b) Primary School Students and Primary School Leavers.
- (c) Contacts.

was completed.

Control Tuberculosis Registry

408. The number of notification during the year increased to 5,666, being due to increased case-finding activities on the part of Government as well as S.A.T.A. and follow-up of the previous years' activities. Of this number, 895 were from private practitioners; excluding S.A.T.A. which sent in 1,725 notifications.

Recall Clinic

409. The Recall Clinic maintain its service for the follow-up or cases recalled from X-Ray Surveys, the periodical check-up of cases initially diagnosed as "Scars" and the assesement of cases not yet proven as active. 1,723 persons attended the Recall Clinic during the year with a total of 2,639 attendances.

Tuberculosis Culture Laboratory

410. In addition to its normal function of performing bacteriological examination in connection with Tuberculosis and sensitivity tests of mycobaterium tuberculosis to anti-tuberculous drugs, this Laboratory is also the training centre for Laboratory Technicians-in-Training. The work done for the year is as follows:—

TABLE 81

WORK DONE AT CENTRAL CULTURE LABORATORY, 1959

Type of Work	Total	Positive	Continued
Direct Smear ...	217	6	—
Concentrated Deposit ...	71	5	—
Sputum Culture ...	5,729	803	1,025
Laryngeal Swab Culture ...	11,296	697	250
Miscellaneous Cultures ...	687	20	38
Sensitivity Test ...	1,512	—	—

Health Visitors' Division

411. The activities of this section increased considerably. The main work of the Division during 1959 was: (1) Home Visits, (2) Examination of Contacts, (3) B.C.G. Vaccinations at (a) Kandang Kerbau Hospital and (b) Maternal and Child Health Clinics (Rural), (4) School Tuberculosis Service and (5) Tuberculosis Testing and B.C.G. Vaccinations at Institution.

TABLE 82

SUMMARY OF WORK DONE BY THE HEALTH VISITORS' DIVISION,
TUBERCULOSIS CONTROL UNIT, 1958, 1959

			1958	1959
Home visits to patients	...	...	7,192	12,316
Home visits to contacts	...	...	5,829	9,979
Tuberculin Tests done	...	...	14,997	69,372
B.C.G. Vaccination done	...	...	36,515	59,744
Contact Clinic attendances	...	...	31,224	35,725

B.C.G. Vaccination

412. The B.C.G. Team continued its work of giving B.C.G. to new-born infants delivered at Kandang Kerbau Maternity Hospital. Of 29,269 infants discharged from the Hospital in 1959, B.C.G. Vaccinations was given to 28,283 showing a 96 per cent response, as compared with 94 per cent in 1958 and 93 per cent in 1957 respectively.

413. B.C.G. Vaccination of infants under the age of 1 month, started in 2 Maternal and Child Health Clinics (Rural) in 1957 and subsequently extended to 20 centres, was continued. In 1959, out of 15,359 infants born in the rural areas, 4,078 under the age of one month were vaccinated.

414. B.C.G. vaccination at City Clinics started in July 1958 was continued. Of 14,773 infants born in the City outside the Kandang Kerbau Maternity Hospital, during the year, 5,936 were given B.C.G. Vaccination.

SCHOOL TUBERCULOSIS SERVICE

415. During the year, 14,606 school children, teachers, school servants and hawkers were X-rayed with the results as shown in Table 83.

TABLE 83

	School Children	School Teachers	School Servants
Active Primary	943	3	..
Healed Primary	889	2	5
Miliary	2	..	..
Tuberculous of Bones and Joints ..	6	..	..
Achoi Pulmonary Tuberculosis ..	54	9	14
Quiescent	8	7	8
Healed Pulmonary Tuberculosis ..	14	13	7
Under Investigation	188	42	24

TABLE 84

NUMBER OF SCHOOLS COVERED IN 1957, 1958 AND 1959

Year	English	Chinese	Malay	Indian	Private	Total
1957	157	123	31	12	4	327
1958	140	28	20	..	..	188
1959	235	401	53	12	..	701

TABLE 85

NUMBER OF TUBERCULIN TESTS AND B.C.G. VACCINATIONS DONE IN SCHOOLS, 1957-59

Year	Tests	Vaccinations
1957	35,633	20,338
1958	17,466	9,790
1959	60,577	19,340

TABLE 86

ROUTINE ATTENDANCES IN SCHOOL TUBERCULOSIS CLINICS IN 1959

	School Children	School Teachers	School Servant and Hawkers	Total
New Cases	2,299	110	68	2,477
Re-visits	7,442	436	187	8,065
Total	9,741	546	255	10,542

INCIDENCE OF TUBERCULOSIS IN SINGAPORE

416. Drs. Harvey and Rubinstein in their preliminary report of the Tuberculosis case Finding Programme of 1958 found that out of a total of 50,673 persons X-Rayed and subsequently investigated, 1,881 of them had active tuberculosis. This gave an overall incidence of pulmonary tuberculosis of 3.7 per cent.

TABLE 87

MASS TUBERCULOSIS SURVEY, 1958

RESIDENTS X-RAYED BY AGE GROUP AND SEX

Age Group in Years	MALES			FEMALES		
	No. X-Rayed	No. Active Cases	%Age	No. X-Rayed	No. Active Cases	%Age
14	799	3	.3	551	3	.5
15-19	5,564	76	1.3	3,258	22	.6
20-24	4,413	110	2.4	2,921	35	1.1
25-29	3,770	148	4.1	2,555	36	1.4
30-34	3,134	136	4.3	2,170	47	2.1
35-39	2,566	142	5.4	1,941	51	2.6
40-44	2,289	188	8.2	1,823	54	2.9
45-49	2,404	190	7.9	1,936	58	2.9
Total under 50 years ..	24,939	993	3.6	17,155	306	1.7
50-54	1,744	187	10.7	1,583	49	3.0
55-59	1,319	134	10.1	1,154	37	3.2
60-64	682	84	12.3	634	16	2.4
65 and over	567	59	10.4	622	12	1.9
Total over 50 years ..	4,312	464	10.7	4,002	114	2.8
Not stated	149	2	1.3	116	2	1.7
Total ..	29,400	1,459	4.9	21,273	422	1.9

TAN TOCK SENG HOSPITAL

417. Tan Tock Seng Hospital continued its role as the Chief Government Tuberculosis Centre. With completion of the building programme the total bed strength on 31st December, 1959 was 1,148.

418. The proposal to convert one ward-block into an Assistant Nurses' Hostel and Training School was abandoned. This ward-block will provide accommodation for 206 beds, thus increasing the total available bed-strength to 1,354.

419. One block at Woodbridge Hospital has continued to accommodate Chronic infectious ambulant cases of Tuberculosis. At the end of December, there were 37 patients.

Staff

420. The staff of the Hospital consisted of 3 Chest Physicians (acting), 16 Medical Officers, 2 Matrons, Grade II, 23 Sisters, 11 Hospital Nurses, 381 Assistant Nurses, 6 Almoners, 1 Radiographer, 1 Physiotherapist, 1 Occupational Therapist, 2 Pharmacists, 2 Chief Hospital Assistants, 4 Hospital Assistants, Special Grade B, 32 Hospital Assistants (Timescale), 2 Dispensing Assistants and 4 Laboratory Assistants.

421. The Hospital was run on the three Units System: Dr. Wong Hin Sun, L.M.S., M.R.C.P. (Edin.), T.D.D. (Wales), Dr. Yeoh Seang Ann, M.B., B.S., M.R.C.P. (Edin.), T.D.D. (Wales) and Dr. J. M. J. Supramaniam, M.B., B.S., M.R.C.P. (Edin), F.R.F.P.S. (Glas.), T.D.D. (Wales) were in charge of the three Units. Dr. H. F. Jackson, L.M.S. was the acting Medical Superintendent of the Hospital. Dr. (Miss) G. E. L. Cummins, M.B., B.CH. (U. Camb.), M.R.C.P. (London), retired on 27th August, 1959.

TABLE 88

TUBERCULOSIS CASES ADMITTED TO GOVERNMENT HOSPITALS, 1955-1959

Tan Tock Seng Hospital:

	1955	1956	1957	1958	1959
Pulmonary ...	2,104	2,061	2,442	3,064	2,588
Bones and Joints ...	59	79	133	171	169
Other forms ...	12	22	27	41	62

General Hospital:

Pulmonary ...	776	944	942	785	660
Bones and Joints ...	287	146	302	338	332
Other forms ...	339	415	122	242	252

St. Andrew's Orthopædic Hospital:

Bones and Joints ...	247	104	235	245	121
Other forms ...	—	105	—	—	—

Total ...	3,824	3,876	4,203	4,886	4,184
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Treatment

422. The Hospital continues to provide inpatient treatment for as many tuberculosis patients as possible, but due to bed shortage, outpatient treatment is still being provided for a large proportion of cases. Priority for admission is given for emergency, acute and toxic cases and highly infectious chronic cases with unsatisfactory home conditions.

Medical treatment

423. Streptomycin, PAS. and INAH. continue to be used in this hospital as the most important drugs for the treatment of tuberculosis.

424. Owing to its marked toxicity, the use of cycloserine has been limited to only a very few selected cases.

425. A supply of pyrazinamide was made at the end of the year and will be used shortly for the treatment of selected cases with tuberculosis organisms found resistant to the standard chemotherapeutic agents.

Surgical treatment

426. A total of 105 patients was sent to the Surgical Units, General Hospital, for major thoracic surgery. These patients had their pre-operative preparation and post-operative follow-up in Tan Tock Seng Hospital. 482 minor operations were also carried out here of which 316 were bronchoscopies, and 106 plaster of Paris applications. Six phrenic crushes were performed.

TABLE 89

COLLAPSE THERAPY ON IN-PATIENTS AT TAN TOCK SENG HOSPITAL

	1954	1955	1956	1957	1958	1959
<i>Artificial Pneumothorax:</i> (in-patients)						
Inductions done	11	20	1	..	1	..
Refills done	174	136	5	..	..	..
<i>Pneumoperitoneum:</i>						
Inductions done	205	148	106	74	66	112
Refills done	6,124	5,339	2,880	1,160	769	1,170

TABLE 90

CHEST OPERATIONS ON TUBERCULOSIS CASES

1952	...	...	17 Thoracoplasties and Resections
1953	...	...	76 Thoracoplasties and Resections
1954	...	...	125 Thoracoplasties and Resections
1955	...	...	290 Thoracoplasties and Resections
1956	...	...	228 Thoracoplasties and Resections
1957	...	...	158 Thoracoplasties and Resections
1958	...	...	66 Thoracoplasties and Resections
1959	...	...	105 Thoracoplasties and Resections

Research

(1) *Atypical tubercle bacilli*.—Since the setting up of the new T.B. Culture Laboratory in this hospital, atypical chromogenic tubercle bacilli have been isolated by cultural methods from certain tuberculosis patients. These patients are now being investigated by two chest physicians and a study of the radiological findings of these patients is being carried out in collaboration with the Radiological Department.

(2) *Persistent Cavitation in Spite of Sputum Conversion*.—It has been observed for some time now that a fair number of our cases improved very well with treatment and their sputum was converted. However, they were left with residual cavities of various sizes. These persistently sputum negative cavities have confronted the Chest Physician with difficult problems. It is still uncertain whether these cavities should be treated further either medically or surgically, or be left alone and the patients kept under close observation

while at work to see if there is any relapse. In order to elucidate this problem a series of these cases is being collected, studied and followed up now. It is hoped that after a statistically significant number of these cases have been collected and followed up for a sufficient length of time that the findings would be published in one of the journals.

ROTARY TUBERCULOSIS CLINIC

427. A return of the work done in this Outpatient Clinic is given in Table 91.

TABLE 91

RETURN OF WORK, ROTARY TUBERCULOSIS CLINIC, 1957-59

	1957	1958	1959
New cases of tuberculosis ...	2,405	2,790	2,685
Repeat visits of cases of T.B. ...	269,820	364,272	337,866
Specialist Consultations (a) New cases ...	2,796	3,434	3,946
(b) Old Cases ...	36,751	44,474	49,768
X-Ray examinations ...	75,973	82,682	90,697
Fluoroscopic screenings ...	4,024	1,743	1,422
Laboratory examinations ...	111,420	110,447	94,551
A.P. Inductions ...	6	—	—
A.P. Refills ...	16	—	—
P.P. Inductions ...	55	24	84
P.P. Refills ...	20,826	8,586	7,046

428. The crude death rate for the last 12 years from Pulmonary Tuberculosis is given in Table 92. The figures show further decline in the rate in 1959.

TABLE 92

DEATH RATE FROM TUBERCULOSIS

(Rates are the number of Deaths per 100,000 population)

Year	Population	Deaths (All Forms)	Death Rate (All Forms)	Deaths (Respiratory System)	Death Rate (Respiratory System)
1921 ..	417,859	1,842	440.81	1,827	437
1931 ..	562,866	1,431	254.23	1,319	236
1947 ..	927,849	1,635	176.2	1,468	158.2
1948 ..	969,713	1,682	173.5	1,449	149.4
1949 ..	1,013,517	1,560	153.9	1,290	127.3
1950 ..	1,059,354	1,477	139.4	1,211	114.3
1951 ..	1,107,320	1,299	117.3	1,052	95.0
1952 ..	1,157,518	1,206	104.2	956	82.6
1953 ..	1,210,056	1,006	83.1	811	67.0
1954 ..	1,265,045	964	76.2	829	65.5
1955 ..	1,322,607	989	74.8	827	62.5
1956 ..	1,382,857	784	56.7	673	48.7
1957 ..	1,445,930	751	51.94	671	46.4
1958 ..	1,514,900	919	60.66	712	47.0
1959 ..	1,611,900	628	39.76	358	22.2

ALMONERS' DIVISION

429. This year has shown further development and consolidation of the trends along which this department has been developing over the past few years. There has been close co-operation with other departments within the hospital, Almoners departments in other hospitals, community service organisations and other social agencies.

430. With the appointment of the sixth almoner in June of this year, it was possible to allocate two almoners to each of the three Units. Although, due to the rapidly increasing amount of work, the case load of each almoner is still heavy, it has now become more manageable and a more uniform and adequate service can be given to all patients attending the hospital. 20,708 patients were assisted in various ways.

431. On the recommendation of the Chest Physicians arrangements continued to be made for the fostering of babies of those of our patients who were medically unfit to look after their infants themselves.

432. Until its dissolution in September, the Almoner-in-charge served on the Boarding Out Committee and continues to have a very close liaison with the Lady Supervisor in the Children's and Young Person's Section at the Department of Social Welfare in this aspect of work. Where the cost of fostering cannot be met by the Boarding Out Committee's vote, we continued to finance these cases from our Almoner's Department's funds until such time as a vacancy under the scheme occurred.

433. The scheme by which a number of ex-patients are employed on a temporary basis in the hospital has continued. This "Six Months Scheme" is still the only organised rehabilitation scheme conducted by the hospital and is invaluable. The new system of selection for the scheme, inaugurated last year, has proved to be a successful and fair means of choosing patients most likely to benefit by the scheme.

434. The department continued to provide training and three students from the Department of Social Studies, University of Malaya, were placed with the Almoners at the hospital during 1959.

435. In conformity with the general expansion of the work in the hospital, the Almoner's department continued to develop and expand during the past year.

PHYSIOTHERAPY DIVISION

436. The year commenced with two full-time physiotherapists covering all pre-operative and post-operative chest treatments, all orthopaedic cases and various patients in the chronic wards.

437. Sufficient staff enabled daily treatment for the majority of patients, especially those requiring thoracic surgery; and exercises for individuals and in classes were given everyday.

SUMMARY OF WORK DONE BY THE PHYSIOTHERAPY DIVISION

<i>Year</i>		<i>Treatments</i>	<i>No. of Patients treated</i>
1955	...	26,629	1,578
1956	...	22,118	1,688
1957	...	18,357	1,523
1958	...	25,032	1,965
1959	...	28,054	2,407

OCCUPATIONAL THERAPY

438. The emphasis in the department was on re-training of the disabled in order that they might return to a full and natural life whenever possible.

439. Training in tailoring, dress-making, weaving and rattan work was offered to Labour Department trainees from amongst our cured patients.

DIVERSIONAL THERAPY

440. Thirty-one wards were covered by 60 voluntary workers. The number of articles produced during the year in the record number of 11,775. The articles comprised of felt toys, plastic toys, flowers, sewing and embroidery, all kinds of knitted garments from babies booties to large sweaters of elaborate design.

RED CROSS LIBRARY

441. Trolleys of books and magazines in English, Chinese, Malay, Tamil and other languages are taken into the Male Wards twice weekly by eight voluntary British Red Cross lady helpers, each doing one morning a week. Also viewmasters are shown to the women and children, and magazines distributed to them regularly. Playing cards and games were also given out to them regularly. An interesting feature recently has been the demand by Chinese and Indian patients for books and dictionaries to teach themselves Malay.

TRAINING OF PERSONNEL IN 1959

442. 20 Students Nurses passed the examination for the Tuberculosis Nursing Certificate. 36 Assistant Nurses passed the final examination during the year. 180 Nurses remained in training at the end of the year.

ROYAL SINGAPORE CHEST CLINIC

443. The year 1959 saw a continued expansion of work of the Singapore Anti-Tuberculosis Association in all its respects, with increases in the activities of every department.

MASS X-RAY CASE-FINDING CAMPAIGN

444. The highlight of the year was the Mass X-Ray Case-finding Campaign in the Tanjong Pagar district, in the course of which 16,886 persons over the age of 14 were X-Rayed. Of these 828, or 49 per thousand, were diagnosed as having active tuberculosis.

HEALTH EDUCATION

445. Towards the end of the year the first issue of a two-monthly Bulletin was published. Interest in this publication is growing.

DIAGNOSTIC UNIT

446. In the Diagnostic Unit of the Clinic 123,396 X-Rays were taken, an increase of 13,355 over 1958. 1,874 new cases of tuberculosis were registered for treatment.

TREATMENT CENTRE

447. There were 4,016 patients under active treatment at the end of the year. Total patient attendances were 293,593, an increase of 68,184 over the previous year. The Mobile Treatment Unit continued its services to patients living at a distance from the Clinic. The domiciliary service, which meets the needs of ill patients unable to attend the Clinic, has been greatly extended. The checking of defaulters is a time-consuming but all-important aspect of our work and was pursued energetically. To facilitate this work the record section has been mechanised by the installation of Hollerith Punch Card equipment.

448. 101 patients were accepted for chest surgery by our Honorary Visiting Surgical Consultants, but only 19 were operated upon during the year. The Surgical Units of the General Hospital did what they could, and arrangements were made with the Lady Templer Hospital in Kuala Lumpur for some patients to be operated upon there.

449. Increased case-finding has brought with it increased checking of contacts, and the simpler Heaf test has been substituted for the Mantoux test. It is more easily handled by the Health Visitors and gives equally good results. B.C.G. vaccination continued to be given to all negative reacting contacts.

WELFARE UNIT

450. A monthly average of 1,565 SATA patients received public assistance from the Social Welfare Department. The co-operation of this Department is much appreciated and has enabled treatment to be made readily available for all who need it.

INSURANCE SCHEME

451. At the end of the year 17,400 people were covered by the SATA Insurance Scheme. 73 members of this Scheme developed active tuberculosis during 1959 and were placed under treatment—rate of four per thousand. This is an extremely high infection rate and emphasises the need for regular routine X-Ray examination. The majority of those who developed tuberculosis did not have to stop work and response to treatment has been extremely satisfactory.

REHABILITATION WORKSHOPS

452. The Rehabilitation Workshops attached to the Clinic continued to provide training in Printing, Bookbinding, Box-making, Tailoring and Weaving for an increasing number of ex-patients, and the progress shown by them has been satisfactory. 51 persons were accepted rehabilitation training programme during the year. There were 88 ex-patients undergoing rehabilitation at SATA's Rehabilitation Settlement at South Winds during 1959, and they were engaged in chicken farming, cattle farming, pig rearing and rattan furniture work. Six inmates were housed with their families in the newly-completed family quarters.

S.A.T.A. CLINIC STATISTICS FOR THE YEAR 1959

Diagnostic Unit:

	1959	1958	1957	1956
Total X-rays ...	140,282	110,041	99,214	93,805
Daily average ...	515	404	366	348

Laboratory tests:

Blood sedimentation ...	38,356	39,620	37,059	34,972
Blood counts ...	6,900	10,085	8,038	7,316
Mantoux tests ...	6,942	4,632	5,506	4,316
B.C.G. ...	1,542	610	1,271	1,414

Treatment Unit:

Total number of attendances ...	293,593	225,409	221,855	208,841
Daily average attendances ...	1,078	830	818	775
Total number of services rendered ...	636,074	471,775	468,447	433,208
Daily average services ...	2,334	1,737	1,728	1,608

Consultations with Physicians:

New cases (T.B.) ...	2,107			
Old cases and Non-T.B. ...	39,935	42,042	33,517	32,129
				28,739

Laboratory tests:

Sputa—direct smear ...	22,525			
culture ...	2,230			
	24,755			18,696

Laryngeal swab culture ...	1,405			
Other tests ...	18,897	45,057	37,017	29,019
				29,826
Electrocardiographs ...	567	589	386	337

Home Visits:

Number of treatment visits by Health Sister ...	6,092	5,881	5,703	5,330
Average number of patients receiving home treatment throughout the year ...	86	86	80	77
Number of visits for investigation of income, follow-up of defaulters, etc. ...	2,868	2,577	2,086	1,993

Mobile Treatment Unit:

Number of Attendances ...	38,391	30,029	29,654	23,281
Average number of patients served by unit throughout the year ...	710	632	509	365

Milk Bar:

Free meals served ...	49,798	46,832	44,554	45,348
Daily average ...	183	172	165	168

CHAPTER SEVENTEEN

SOCIAL HYGIENE

453. Middle Road Hospital and Social Hygiene Clinic is responsible for the treatment and control of Venereal diseases in Singapore. The facilities provided include:—

1. A 25 bedded hospital with male and female Outpatient Clinics.
2. A Seamen's Clinic in the Dock Area.
3. Two Mobile Units for case finding purposes for the Rural Areas.
4. An Epidemiological Unit for contact and follow-up purposes, and
5. A Serological Laboratory.

Staff

454. The Staff consisted of 1 Senior Medical Officer, 4 Medical Officers, 1 Sister, 12 Hospital Nurses, 1 Senior Supervisor, 1 Chief Hospital Assistant, 17 Hospital Assistants, 12 Supervisors. Dr. L. M. Ram, M.B., B.S.; M.R.C.P.; D.H.P. was Senior Medical Officer, Social Hygiene.

INCIDENCE

455. There is a considerable decline in all types of syphilis and minor venereal diseases, but gonorrhoea and non-specific urethritis still show an increase.

TABLE 93
INCIDENCE OF VENERAL INFECTIONS 1955-59

Year	Syphilis Infections	Other V.D. Infections	Total
1955	1,647	3,441	5,088
1956	1,226	3,557	4,783
1957	1,276	4,176	5,452
1958	1,035	4,198	5,233
1959	795	4,043	4,838

TABLE 93a
BREAKDOWN OF SYPHILITIC INFECTIONS, 1953-59

Year	Primary Syphilis	Secondary Syphilis	Early Latent Syphilis	Late Latent Syphilis	Infantile Syphilis	Total
1953	194	68	516	676	42	1,496
1954	104	39	418	943	25	1,529
1955	88	28	209	1,266	14	1,605
1956	128	41	182	650	10	1,011
1957	172	33	249	577	17	1,048
1958	125	49	168	528	8	878
1959	100	26	143	394	3	666

Note:—Excluding Tertiary Syphilis.

TABLE 94

TERTIARY SYPHILIS, 1959

Nationality	Gummata and Skin	Bones and Joints	Cardio- vascular	G.P.I.	Tabes	Other Neuro- Syphilis
<i>1958</i>						
<i>Male:</i>						
Chinese ..	10	16	10	14	2	40
Indian ..	2	4	4	1	..	3
Malaysian ..	1	4	2	..	..	5
Total ..	13	24	16	15	2	48=118
<i>Female:</i>						
Chinese ..	2	..	3	1	1	4
Indian ..	..	..	..	..	..	..
Malaysian ..	..	..	..	..	..	3
Total ..	2	..	3	1	1	7= 14
Grand Total ..	15	24	19	16	3	55=132
<i>1959</i>						
<i>Male:</i>						
Chinese ..	7	20	12	11	6	18
Indian ..	1	3	..	1	..	1
Malaysian ..	..	3	..	..	..	3
Total ..	8	26	12	12	6	22= 86
<i>Female:</i>						
Chinese ..	1	1	2	..	2	1
Indian ..	..	..	..	..	..	1
Malaysian ..	..	..	1	..	1	4
Total ..	1	1	3	..	3	6= 14
Grand Total ..	9	27	15	12	9	28=100

TABLE 94a

RATIO OF VARIOUS SYPHILITIC LESIONS

	1955	1956	1957	1958	1959
Neuro syphilis ...	40.2	40.0	43.6	56.0	54.9
Cardio-vascular ...	22.0	14.2	11.0	14.4	15.0
Cutaneous ...	18.9	18.7	22.7	11.4	9.0
Bones and Joints ...	18.9	27.1	22.7	18.2	27.0

Gonorrhœa and Non-Specific Urethritis

456. The incidence of Gonorrhœa and Gonorrhœal Ophthalmia shows an increase as is evident from Table 95.

TABLE 95

INCIDENCE OF GONORRHŒA AND NON-SPECIFIC URETHRITIS

Year	Gonor- rhœa	Gonor- rhœa Oph- thalmia	Gonor- rhœa Compli- cations	Gonor- rhœa and Non- Urethritis	Non- specific Urethritis	Total
1955	2,339	31	18	241	696	3,325
1956	2,584	54	11	240	529	3,418
1957	2,856	33	10	177	522	3,598
1958	2,808	37	6	253	804	3,908
1959	3,027	67	13	268	914	4,289

Other Venereal Infections

457. The incidence of soft sore shows a marked decrease as is evident from Table 96.

TABLE 96

INCIDENCE OF OTHER VENERAL INFECTIONS

Year	Lympho- granuloma Venereum	Soft Sore	Mixed Infections	Granuloma Inguinale
1955	70	822	161	..
1956	40	647	141	..
1957	33	1,056	188	..
1958	13	1,228	106	..
1959	15	784	137	..

ROUTINE WORK

Attendances

458. There has been a marked increase in attendances. This is due to transfer of skin cases from General Hospital during the later part of the year. The daily average attendances totalled 735 based on 297 working days of the year. Table 97 gives comparative figures for the last five years.

TABLE 97

PATIENT ATTENDANCES AT SOCIAL HYGIENE DIVISION, 1955-59

Year	Inpatients	OUTPATIENTS			Total Attendances
		Males	Females	Total	
1955	1,379	15,803	9,943	25,746	184,033
1956	1,353	14,596	9,955	24,551	185,452
1957	1,335	16,713	11,502	28,215	190,549
1958	1,125	19,864	14,997	34,861	197,333
1959	1,349	20,935	16,723	37,658	218,270

Social Hygiene Travelling Dispensary

459. There are two Mobile Units covering the Maternity and Child Welfare Clinics in rural areas, outpatient departments and improvised centres at clubs. The number of new cases investigated during the year was 12,863, of whom 11,545 were anti-natal cases. Table 98 summarise the work of the Units.

TABLE 98

CASES TREATED BY SOCIAL HYGIENE TRAVELLING DISPENSARY, 1959

Clinic	Male	Female	Ante-natals	V.D. Cases	Investigation Cases	Total
<i>Central Rural:</i>						
Yio Chu Kang	434	3,223	3,184	13	3,644	3,657
Upper Serangoon						
Seletar						
Paya Lebar						
<i>Rural West:</i>						
Bukit Timah	726	4,681	4,585	33	5,374	5,407
Pasir Panjang						
Bukit Panjang						
Holland Road						
Jurong						
<i>Rural East:</i>						
Kampong Batak .. ..	..	3,799	3,776	22	3,777	3,799
Changi						
Ulu Bedok						
Siglap						
Total	1,160	11,703	11,545	68	12,795	12,863

Epidemiological Section

460. The personnel of this Unit was responsible for 16,362 home visits to contacts and defaulters. 2,912 letters were written to various individuals. There were 5,111 families under surveillance, of whom 584 came under treatment for the first time in 1959. 100 girls below the age of 18 were referred by the Social Welfare Department and 9 of them were found to be infected—one with early syphilis, 7 with gonorrhœa and one with yaws.

Antibiotic Prophylaxis

461. Promiscuous women are advised to attend weekly for routine examination. Prophylaxis with administration of Pencillin Ammonium Monos-tearate (P.A.M.) monthly or for treatment when necessary. 74 new cases were admitted during the year in this category, of whom 36 were free from infection. Since the inauguration of this service in 1950, 1,856 women have been treated, of whom only 200 attended during 1959.

Dermatological Clinic

462. This was first introduced in 1950 on a sessional basis, but there are now regular daily Clinics. Towards the later half of the year, all skin cases were referred from General Hospital to this Clinic for treatment. 11,041 skin cases were seen during the year.

463. Table 99 summarise the work of the Social Hygiene Division for the last five years.

TABLE 99

SUMMARY OF WORK IN SOCIAL HYGIENE DIVISION, 1955-1959

	1955	1956	1957	1958	1959
Blood specimens for Kahn Test	29,452	29,315	33,400	33,983	38,316
Cerebro Spinal Fluid for Kahn Test	406	596	242	198	243
Specimen for Dark Ground Microscopic Examination ..	4,091	4,223	4,114	3,003	2,308
Smears for Examination for Gonococci	23,372	26,641	28,482	31,356	36,432
Swabs for Culture for Gonococci	157	110	115	134	49
Aqua Penicillin G. used ..	4,035 mu	4,020 mu.	3,540 mu.	2,426 mu.	12,113 mu.
Procain Penicillin P.A.M. ..	31,224 ..	34,437 ..	33,485 ..	26,808 ..	25,207 ..
Penidure (Bicillin) ..	1,392 ..	2,712 ..	2,175 ..	740 ..	10,976 ..
Total number of Injections administered	182,121	179,209	183,523	187,662	185,865

464. Table 100 gives the breakdown for non-venereal cases cleaned through this Division for the last 5 years.

TABLE 100

SUMMARY OF WORK IN SOCIAL HYGIENE DIVISION, 1955-59

GENERAL MEDICAL WORK, SOCIAL HYGIENE, 1955-59

	1955	1956	1957	1958	1959
Apprehensive group including ante-natal and contact cases ...	10,982	11,265	12,552	16,545	17,990
Dermatological complaints ...	5,587	4,711	5,538	8,993	11,541
Arthritis and Arthralgia ...	460	572	620	940	1,242
Non-gonococcal Urethritis, Cervicitis, Tri-chomonas, Infestation, Dysuria, etc. ...	985	869	983	1,509	980
Other genital infections, Balanitis, Warts, Paraphimosis, Traumatic Ulcers, Hydroceles, Non-specific Epididymitis and sexual complaints	480	692	712	922	962
Yaws ...	53	30	9	15	34
Leprosy ...	26	16	19	27	12
Non-venereal Iritis, Conjunctivitis ...	108	115	136	299	244
Miscellaneous ...	563	1,478	2,197	376	396
Total ...	19,244	19,748	22,766	29,628	32,820

Seamen

465. Under the Brussel's International Agreement of 1924, Seamen of all nationalities are afforded all the facilities for free diagnosis and treatment both in the Dock Area Clinic and in the Middle Road Hospital. The following table summaries the attendances:—

TABLE 101

SEAMEN TREATED AT SOCIAL HYGIENE DIVISION

Nationality	Primary	Secondary	Tertiary	Period not indicated	Gonorrhœa	Soft Sore	Lymphogranuloma	Mixed Infectious Service	Investigation Cases	Total
Chinese ..	4	1	5	5	20	4	..	2	159	200
Indian ..	..	..	..	..	3	..	..	..	3	6
Malayasian ..	..	..	1	3	22	1	..	1	51	79
European ..	1	..	..	1	68	18	1	1	768	858
Others ..	..	..	..	..	7	..	..	..	7	14
Total ..	5	1	6	9	120	23	1	4	988	1,157

Teaching

466. Middle Road Hospital also serves as a Training Centre for Medical Students, Doctors, Nurses, Almoners, Midwives and trainees for Social Studies.

CHAPTER EIGHTEEN

MATERNITY AND GYNÆCOLOGY

KANDANG KERBAU HOSPITAL

467. The Kandang Kerbau Hospital is the centre for all Government Maternity and Gynæcology work in Singapore. This Hospital which is essentially a free Hospital except for a small paying section, is run under a two-unit system. The University Unit under Professor B. H. Sheares, M.D., M.S., F.A.C.S., F.R.C.O.G., and Government Unit under Dr. A. C. Sinha, L.M.S. (Singapore), M.M.S.A., (London), M.R.C.O.G. (London) till July 1959 and under Dr. Chong Tuck Kwong, D. (Obst.), R.C.O.G. (London), M.R.C.O.G. (London) from July 1959.

468. The Hospital is administered by the Medical Superintendent (Dr. A. Arulanandam, L.M.S. (Singapore) till June 1959 and Dr. S. N. Kapur from 29th June, 1959.

469. The bed strength remained the same as in the previous year—316 beds; 40 of which are reserved for gynæcological cases.

470. This Hospital also provides ante-natal, post-natal and gynæcological clinics plus a separate clinic for women and children dealing with common and general ailments.

TABLE 102

DELIVERIES IN KANDANG KERBAU MATERNITY HOSPITAL, SINGAPORE

Year			Hospital Deliveries	Service Domiciliary Hospital	Total
1954	...	...	20,301	—	20,301
1955	...	...	22,813	—	22,813
1956	...	...	24,940	938	25,878
1957	...	...	27,765	1,515	29,280
1958	...	...	30,146	1,578	31,724
1959	...	...	33,609	1,797	35,406

Domiciliary Delivery Service

471. The Domiciliary Delivery Service has been expanding steadily since it started as a teaching service in September 1955. It continues to train the three category of students:—

The Medical Students from University of Malaya.

The Trained Nurses and Pupil Midwives from Kandang Kerbau Hospital.

472. The Medical Students were rostered in turn to gain this experience while the trained nurses and pupil midwives spent eight consecutive weeks in extern practice. All students are accompanied by an experienced midwife, and the service is supervised by three Staff Nurses Midwives and one Sister, who does both supervising and administrative duties.

473. During the year 1959 the total number of students trained were:—

70 Medical Students.

61 Trained Nurses.

50 Pupil Midwives.

474. The Medical Students received an average of 2 cases while the trained nurses and pupil midwives took 15 cases each.

475. The training composed of selection of suitable candidates, ante-natal care of mothers in their own homes, attendance at delivery and follow up of all women during the lying in period for a minimum of 7 days.

476. Women who attend the ante-natal clinic for the first time are interviewed by a midwife and the service offered is explained to them. Patients are at liberty to choose either home or institutional delivery. Hospital delivery is the choice of vast majority because of overcrowding and existing superstitious beliefs.

477. Of 6,326 cases interviewed in ante-natal clinic in 1959, only 2,329 were finally selected for home confinements. In recent months, a number of patients who were booked for home delivery have come to the hospital when labour started and have refused to be sent back home, as it was the practice since the service started. A few cases sought the help of private midwives. Thus 471 cases were lost to the service after giving all the ante-natal care at home. The number of cases in labour attended, totals 1,859, of which 56 cases were transferred to hospital for either maternal or foetal causes.

478. During the follow-up period including mothers and babies 533 cases were referred to doctors mostly for minor ailments and treatments carried out at home.

479. Visits made to the patients' houses in the ante-natal, during labour and puerperium total 25,249.

480. In spite of all these difficulties there has been a rise in the number of bookings made for home confinements. Those who have experienced the benefit of the service are a good influence for the doubting ones. This points to the fact that there is plenty of room for expansion, provided firm methods are adopted which can only be done with the approval of the higher authority.

Domiciliary Aftercare Service

481. The Aftercare Service has continued its valuable help to mothers and babies as in previous years. Out of the total of 41,029 deliveries in K.K. Hospital 10,545 cases were discharged within 36 hours and looked after in their houses by Staff Midwives.

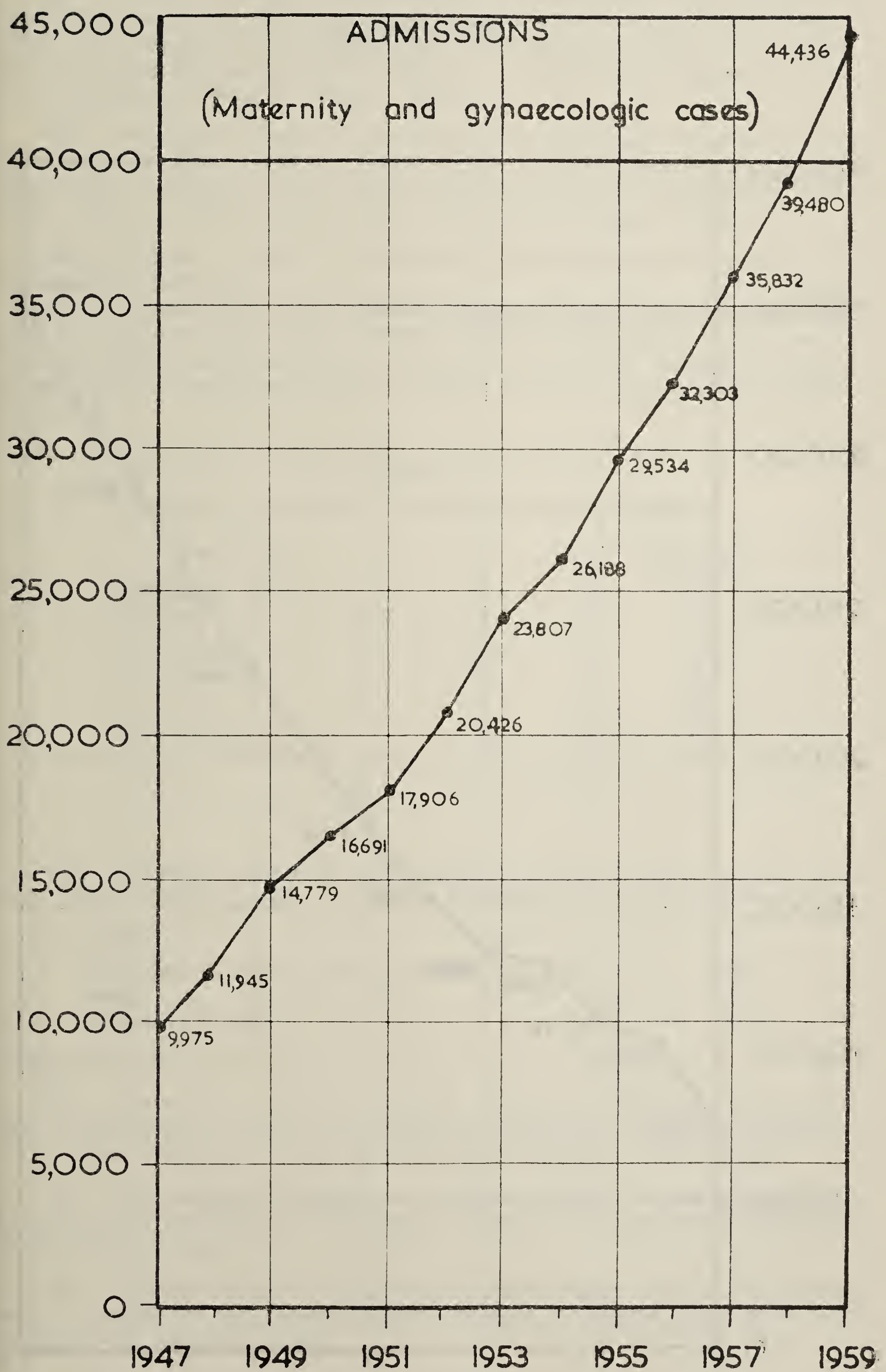
482. Including mothers and babies 307 cases were referred to doctors and the treatments carried out at home.

483. The Staff Midwives in this service have paid 65,159 visits to the homes giving advice to mothers.

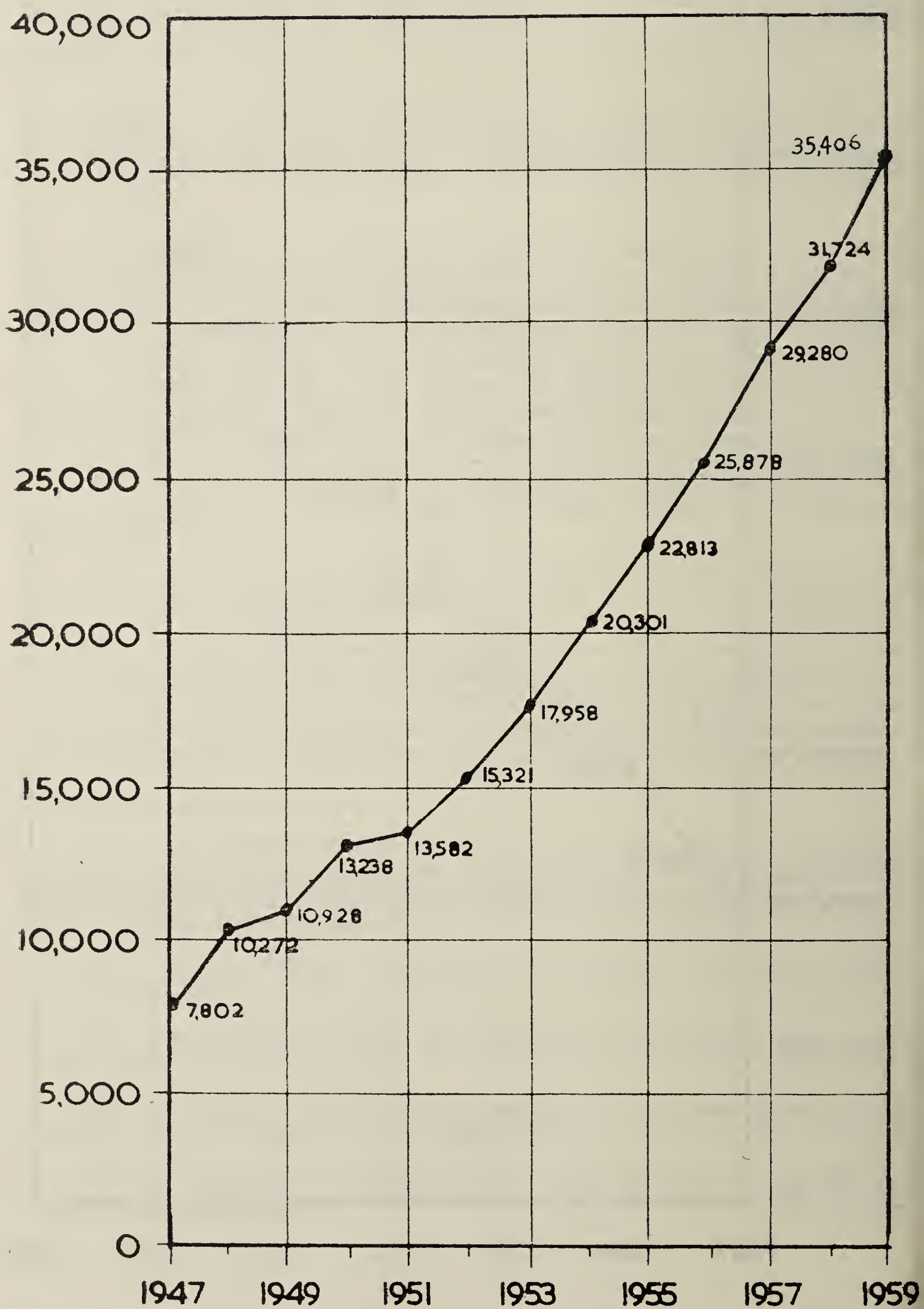
484. An addition of 6 Staff Midwives and 1 Staff Nurse Midwife were allotted to the Domiciliary Service during 1959.

485. As long as the Aftercare Service exists mothers will continue to refuse home-confinements.

KANDANG KERBAU HOSPITAL



KANDANG KERBAU HOSPITAL
DELIVERIES



Pædiatric Care

486. *Lying in Wards.*—Infants requiring observation and treatment (including premature infants from 4—5½ lbs.) are still kept in the Sister's Office adjoining the lying in wards. These cases are seen daily by the Pædiatrician and the Pædiatric Medical Officer, and infectious cases are isolated in the corridor of lying in Wards 1 and 2.

487. *Premature Nurseries.*—Incubators are continued to be in use for the smaller premature, and Dr. G. Smith has shown that there is a definite reduction in mortality in the smaller premature nursed in incubators compared with prematures of the same weight nursed outside incubators.

488. Infectious cases are isolated in the isolation room attached to Premature Nursery II.

489 *Out-patients.*—The Pædiatric Medical Officer sees infants referred from the Post-natal clinic every morning while the Pædiatrician and Pædiatric Medical Officer see the discharged premature infants on Wednesday afternoons. In these premature follow-up Clinics, 527 new cases and 518 repeats were seen.

TABLE 103
INFANTS ADMITTED TO PREMATURE NURSERIES

<i>Birth Weight</i>		<i>Total</i>	<i>Died</i>	<i>Percentage Mortality</i>
Less than 2 lb. ...	...	47	46	97.8
2-0 to 2-7 ...	...	82	71	86.6
2-8 to 2-15 ...	...	109	64	58.7
3-0 to 3-7 ...	...	159	74	46.6
3-8 to 3-15 ...	...	215	65	30.2
4-0 to 5½ ...	...	61	25	40.9
Over 5½ lb. ...	...	39	25	64.1
Total ...		712	370	

490. Infants of over 4 lb. birth weight are admitted only when seriously ill at birth. Therefore, there is a rise in mortality in the large infants.

Lodger infants

Admissions of premature infants not born in K.K.M.H. ...	=	118
Deaths ...	=	50
Percentage Mortality ...	=	42.4%

Almoners' Division

491. There is a growing awareness among the Medical and Nursing Staff regarding the various kinds of help this Department can offer to patients. As a result, a variety of cases are now being referred to the Almoner.

492. The services rendered to patients include recommendation for financial aid, arrangement for fostering or adoption of babies and arrangement for institutional care.

493. During the year, University of Malaya Social Studies Department sent 4 students to this Department for training in general social work and especially in Almoner's work.

TABLE 104

SUMMARY OF WORK DONE AT KANDANG KERBAU HOSPITAL, 1955-1959

	1955	1956	1957	1958	1959
<i>Total Admissions:</i>					
Maternity Cases	25,522	27,951	30,747	33,491	37,661
Gynæcologic Cases	4,012	4,252	5,085	5,989	6,775
Total ..	29,534	32,203	35,832	39,480	44,436
Daily average of patients	276	296	282	296	320
<i>Maternity Statistics:</i>					
Normal deliveries	13,614	15,058	15,840	16,742	17,809
Abnormal deliveries	9,199	9,882	11,925	13,404	15,800
Total ..	22,813	25,878*	27,765	30,146	33,609
Breach deliveries	731	916	1,001	997	997
Forceps deliveries	396	470	563	544	524
Cæsarian	368	488	571	530	523
Triplets (sets)	6	3	2	4	5
Twins (pairs)	256	285	320	347	318
Still births	550	478	592	564	537
Born before arrival	339	307	307	364	434
Maternal deaths	53	39	37	35	34
Maternal deaths rate per 1,000 ..	2.3	1.4	1.3	1.1	0.9
Cases cared by Domiciliary After-care Service (Started in May 1954) ..	7,572	7,282	8,128	9,104	10,545
Domiciliary deliveries (Started in September 1955)	107	938	1,515	1,578	1,797
Quadruplets (set)	—	—	1	—	1
<i>Gynæcologic Statistics:</i>					
Gynæcologic operations (mainly hysterectomies, colporrhaphies, dilatation and curettage, cautery of cervix, myomectomies and sterilization)—					
In-patient operations	3,599	3,944	4,755	5,494	5,949
Out-patient operations	1,348	2,774	2,815	2,873	2,864
Total ..	4,947	6,718	7,570	8,367	8,813
Gynæcologic deaths	22	12	13	25	31
Gynæcologic deaths rate percentage ..	.55	.28	.26	.42	.46
<i>Out-patient Statistics:</i>					
Ante-natal attendances	45,609	63,256	69,803	71,361	80,094
Gynæcologic attendances	31,220	37,074	36,430	34,200	44,106
Total ..	76,829	100,330	106,233	105,561	124,200

* Includes 938 Home deliveries.

TABLE 104—continued

	1955	1956	1957	1958	1959
Post-natal Mothers	11,332	17,115	20,697	26,489	29,952
Post-natal Babies	8,450	10,484	11,993	18,202	21,870
<i>Clinical Laboratory:</i>					
Routine examinations	41,605	47,280	49,722	46,138	56,756
<i>Radiologic Unit:</i>					
(Started in 1953)					
Patients for Radiologic examinations ..	3,371	3,930	4,244	4,076	4,618
Radiologic examinations	3,563	4,266	4,435	4,206	4,689
<i>Anæsthetic Unit:</i>					
Anæsthetics administered—					
Major cases	—	1,414	934	1,125	1,650
Minor cases	—	5,138	5,731	6,786	5,995
Total ..	—	6,552	6,665	7,911	7,645
Number of general anæsthetics ..	—	6,261	6,386	7,594	7,183
Number of spinal anæsthetics ..	—	244	227	255	244
Number of local anæsthetics ..	—	47	52	62	168
<i>Physiotherapy Section:</i>					
(Started in November 1955)					
Patients for physiotherapy	—	2,131	1,997	1,877	1,742
Physiotherapy attendances	—	9,724	10,066	9,674	9,928

Teaching

494. This hospital is a teaching hospital for Obstetrics and Gynæcology for Medical Students of the University of Malaya. 163 Medical Students attended the hospital during the year. The hospital is also the training school for midwives. 62 Nurses and 37 Midwives received this training.

CHAPTER NINETEEN

TRAFALGAR HOME

495. Trafalgar Home is the only Leprosarium in Singapore and is essentially for the segregation of infectious cases of leprosy. It is in the North-Eastern part of Singapore and is about 8 miles from the City. The institution is wholly Government maintained and is managed on an open village scheme. There are 15 wards for those requiring specialised nursing in the male and female infirmaries. The Home has in all 860 in-patients.

Staff

496. The staff of the Trafalgar Home consisted of 1 Medical Superintendent, 2 Medical Officers, 3 religious Nursing Sisters of the Franciscan Missionaries of the Devine Motherhood, one Staff Nurse, one Chief Hospital Assistant, 4 Hospital Assistants (and 15 Nursing Aids and 30 Dressers who are in-patients of the Home). Dr. E. S. Pillay was acting Medical Superintendent till 1st March, 1959. The post was taken over by Dr. Ho Guan Lim who acted as Medical Superintendent till 3rd August, 1959. Dr. Kang Chin Wee was acting from 3rd August, 1959 to 31st August, 1959 and since 1st September, 1959, Dr. Wong Kum Hoong has been the acting Medical Superintendent.

497. There are 300 patients employed as workers in the Home. They are paid a wage which compares very favourably with wages to workers in Singapore.

Development

498. A perimeter fence was erected around the Home to keep away undersirables from entering the Trafalgar Home.

TABLE 105

PATIENT STATISTICS OF TRAFALGAR HOME, 1959

			Male	Female	Total
Total patients remaining on 31-12-58	...	...	648	221	869
Admission from 1-1-59 to 31-12-59	...	...	295	81	376
Discharges from 1-1-59 to 31-12-59	...	...	273	73	346
Absconsions from 1-1-59 to 31-12-59	...	...	21	1	22
Transfer from other Hospitals, etc. from 1-1-59 to 31-12-59	...	...	16	5	21
Transfer from other Hospitals etc. from 1-1-59 to 31-12-59	...	...	7	2	9
Death from 1-1-59 to 31-12-59	...	...	7	—	7
Total patients remaining on 31-12-59	...	...	633	225	858

Total patients remaining on 31st December, 1959—made up as follows:—

Males		Females		
Adults	Child	Adults	Child	Total
552	81	195	30	858

ADMISSIONS DURING THE YEAR 1959—CLASSIFIED BY ETHNIC GROUP

			Chinese		Indians		Malays		Eura- sians		Total		Total No.
			M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Adults:	..	..	210	58	38	7	12	6	—	1	260	72	332
Child:	..	..	35	9	—	—	—	—	—	—	35	9	44
Total ..											295	81	376

Admissions during the year were:—

	<i>Males</i>	<i>Females</i>	<i>Total</i>
(1) New Positive cases	123	34	157
(2) Absconded cases returned	18	2	20
(3) Positive cases came from Sg. Buloh for Admission	2	1	3
(4) Non-infections cases became positive due to defaulty	3	—	3
(5) Negative cases for Orthopaedic, ulcers, treatment, etc.	149	44	193
Total	295	81	376

Discharges during the year 1959 were:—

	<i>Males</i>	<i>Females</i>	<i>Total</i>
(1) Formerly positive cases discharged by Board in 1959	116	35	151
(2) Formerly positive cases discharged by Board previous years	9	2	11
(3) Conditional discharged cases under close surveillance	148	36	184
Total	273	73	346

TABLE 106

TREATMENT

	<i>Males</i>	<i>Females</i>	<i>Total</i>
Dapsone Tabs.	487	184	671
Medapsol	3	—	3
1906 (Ciba)	96	19	115
Sulphetrone Tabs.	13	8	24
Sulphetrone Soluble	13	6	19
Thiacetasorne Tabs.	1	—	1
No treatment	18	9	27
Total	634	226	860

Discharges

499. Patients are discharged by a Board of three doctors, two of whom are not connected with this institution. Membership of the Board is published in the *Gazette* from time to time. Patients are discharged when skin smears are negative on four consecutive occasions taken at intervals of one month.

500. Since November, 1959 conditional discharges have been re-introduced.

Number of cases discharged:—

1954	...	...	...	84
1955	...	...	...	74
1956	...	...	...	94
1957	...	...	...	122
1958	...	...	...	162
1959	...	...	...	151

OUT-PATIENTS' DEPARTMENT AND HEALTH SISTER'S DIVISION

501. Patients coming for treatment at the new "Skin Clinic" (Leprosy Out-patients Department) at Irrawaddy Road have been quite regular in their attendances. Of 3,173 patients registered since 1951, 425 are entirely new cases.

502. Clinic hours are from 1 p.m. to 4 p.m. for five afternoons a week. Between 1 p.m. to 2 p.m., most of the office-going patients attend, so that they can return to their places of employment without taking time off. To make it more convenient for office workers, an evening session once weekly on Wednesdays between 5 p.m. to 6.30 p.m. was started in January 1959.

503. The number of contacts who attended the Clinic during 1959 was 2,156. Contacts are asked to attend the clinic for primary checks and again for re-check at six monthly intervals.

504. Haef's Multiple Puncture tests on contacts of positive and negative cases are given in Out-patient Department, and B.C.G. is given when the result of the H.M.P. is negative.

505. In addition to the routine contacts visits, domiciliary duties of the following nature have been undertaken:—

- (a) Visiting old cases who are defaulting.
- (b) Contacts of open cases in Trafalgar Home.
- (c) Follow-up of absconded patients.
- (d) Supervision of fosterial babies of patients who are in Trafalgar Home.
- (e) Investigation of any special cases referred from the Almoner's Division.

ALMONERS' DIVISION

506. During the year the volumn of work in the Almoners' Department has continued to increase and both Almoners are kept fully occupied with eleven clinics each per week.

507. The problems met with do not change much from year to year. The main difference in 1959 was caused by the abolition of Sickness Allowance to Out-patients. This has caused extreme hardship to these people especially those who are crippled or so badly disfigured that no one will employ them.

508. The Almoner Department has been able to help a little with food donated by charitable sources but the misery seen in Out-patients each day is most distressing.

509. Heretofore, relatives have been loath to accept such patients on discharge but at least the old allowance was an incentive to do so but now they refuse and such patients have no where to go on discharge.

510. There were nine marriages during the year and nineteen babies were born. In the latter cases suitable fostering arrangements for the children were made.

511. The old problem of employment and re-habilitation after discharge are more pressing than ever. This is clearly seen at the Out-patient Workers Clinic where the vast majority of patients attending show no visible signs of having the disease.

OCCUPATIONAL THERAPY DIVISION

512. A part-time Occupational Therapist from Tan Tock Seng Hospital paid weekly visits to the patients. She was assisted by an inmate worker who supplied to the patients with materials bought by the Department. A full-time Occupational Therapist was appointed in December 1959.

513. The number of patients working on occupational therapy at any time averages 50. The arts taught are basket-making, rug-making, embroidery, sewing, weaving and knitting.

TABLE 107

ARTICLES MADE AT TRAFALGAR HOME

<i>Basket Work—</i>				
Shopping baskets, dhoby baskets, tiffin carriers, picnic baskets, etc.				3,430
<i>Weaving—</i>				
Sets Luncheon Mats, Scarves, etc.	...	...	...	80
<i>Rug Making—</i>				
Hooked Wool Rugs	...	...	...	3
<i>Sewing and Embroidery—</i>				
Table cloths, Tray cloths, sets Luncheon mats, pairs Guest towels, etc.	...	...	...	383
<i>Candlewick—</i>				
Bathmats, Chair seats, etc.	...	...	...	5
Total number of Articles				3,901
Total amount paid to Hospital Board Revenue:—				
				\$ c.
"Sales of Stores"	...	...	...	8,632 40

LORONG BUANG KOK GOVERNMENT ENGLISH SCHOOL

514. The School opened on 1st January, this year with 94 pupils and during the year the number has increased to 121.

515. The School teaches English, Chinese and Malay.

SCOUTING AND GUIDING

516. The Green Cross Boy Scouts Troop has 31 boys. The Girl Guides Company has 12 girls. In February this year, the Scouts paid a friendly visit to Sungei Buloh Settlement in Federation of Malaya.

SOCIAL ACTIVITIES

517. Sports Day was held on August, 8th this year.

518. The Children's Committee of the Singapore Leprosy Relief Association worked hard for the children, distributing pocket-money, getting birthday presents, Christmas presents, prizes for Sports Day and providing money for the Annual Prize Giving.

LEPROSY BOARD

519. Dr. Loh Poon Lip and Dr. V. M. S. Thevathasan served on the Board till June. In July, Dr. Lee Siew Choh and Dr. B. R. Sreenivasan were appointed as members of the Board. Ten Leprosy Board meetings were held and 165 cases were discharged.

CHAPTER TWENTY

PSYCHOLOGICAL MEDICINE

WOODBIDGE HOSPITAL

520. 1959 was high lighted by the return of three local men after their successful conclusion of their training in United Kingdom—two with D.P.M. and one with Diploma in Clinical Psychology. Patients' food was considerably improved since the Dietitian has assumed duty in the middle of the year.

Staff

521. The Staff of the Hospital consisted of 1 Medical Superintendent, 1 Deputy Medical Superintendent, 2 Psychologists, 7 Medical Officers, 1 Matron, 2 Assistant Matrons, 6 Nursing Sisters, 9 Staff Nurses, 24 other Nurses (female), 1 Senior Male Nurse, 13 Male Nurses and 24 Junior Male Nurses. Dr. B. G. Burton-Bradley, M.B., B.S., D.P.M. and Medical Superintendent for the first five months of the year and Dr. E. C. Winslow was Acting Medical Superintendent for the next five months before Dr. Yap Meow Foo took over.

PSYCHIATRIC OUT-PATIENT SERVICES

522. Psychiatric Out-patient Clinics are becoming increasingly popular. They are held at General Hospital, Paya Lebar Outdoor Dispensary, Bukit Timah Outdoor Dispensary and Kallang Outdoor Dispensary. A summary of the work of these Clinics is given in Table 108.

TABLE 108

OUT-PATIENT STATISTICS OF PSYCHIATRIC CLINIC, 1959

Sex			Psy- chiatric Out- patient Depart- ment General Hospital	Psy- chiatric Out- patient Depart- ment Paya Lebar Clinic	Psy- chiatric Out- patient Depart- ment Kallang Clinic	Psy- chiatric Out- patient Depart- ment Bukit Timah Clinic	Total	Percent- age of Total
Male	..	..	2,196	644	766	379	3,985	46.56
Female	..	..	2,336	817	900	531	4,584	53.44
Total			4,532	1,461	1,666	910	8,569	100.00

DISTRIBUTION BY RACE

Race	Psy- chiatric Out- patient Depart- ment General Hospital	Psy- chiatric Out- patient Depart- ment Paya Lebar Clinic	Psy- chiatric Out- patient Depart- ment Kallang Clinic	Psy- chiatric Out- patient Depart- ment Bukit Timah Clinic	Total	Percent- age of Total
Chinese	3,846	1,267	1,424	819	7,356	85.84
Indian	487	120	104	79	790	9.22
Malays	141	23	64	12	240	2.81
Eurasian	42	41	56	..	139	1.62
European	6	..	18	..	24	.28
Other Asians	10	10	..	..	20	.23
Total ..	4,532	1,461	1,666	910	8,569	100.00

DISTRIBUTION BY AGE

Years	Psy- chiatric Out- patient Depart- ment General Hospital	Psy- chiatric Out- patient Depart- ment Paya Lebar Clinic	Psy- chiatric Out- patient Depart- ment Kallang Clinic	Psy- chiatric Out- patient Depart- ment Bukit Timah Clinic	Total	Percent- age of Total
0-10	88	12	16	..	116	1.35
11-20	714	189	280	54	1,237	14.44
21-30	1,490	669	617	333	3,109	36.29
31-40	1,152	339	385	281	2,157	25.17
41-50	678	178	219	131	1,206	14.07
51-60	317	65	145	83	610	7.12
61-70	78	4	4	28	114	1.33
71-80	13	5	..	..	18	.21
81-90	2	..	..	..	2	.02
91-100 .. ..	..	..	..	..	..	..
Total ..	4,532	1,461	1,666	910	8,569	100.00

DISTRIBUTION BY DIAGNOSIS

Diagnosis	Psy- chiatric Out- patient Depart- ment General Hospital	Psy- chiatric Out- patient Depart- ment Paya Lebar Clinic	Psy- chiatric Out- patient Depart- ment Kallang Clinic	Psy- chiatric Out- patient Depart- ment Bukit Timah Clinic	Total	Percent- age of Total
<i>Psychoses:—</i>						
Schizophrenic disorders ..	630	619	686	268	2,203	25.71
Maniac Depressive Reaction	113	48	36	45	242	2.82
Involutional melancholia ..	49	14	12	25	100	1.16
Senile and arteriosclerotic psychoses	115	14	44	46	219	2.56
Other and unspecified psychoses	570	100	151	88	909	10.61
<i>Psychoneuroses and disorders of Personality:—</i>						
Hysterical Reaction ..	732	160	85	67	1,044	12.18
Neurotic depressive Reaction ..	906	257	259	231	1,653	19.29
Alcoholism	3	2	2	..	7	.08
Other Drug Addictions ..	..	..	..	..	..	..
Other and Unspecified Psy- choneurotic Reaction and Disorders of Personality ..	196	65	100	20	381	4.45
<i>Mental Deficiency:—</i>						
Other and unspecified Mental Deficiencies	366	100	100	99	665	7.77
N.Y.D. Observational ..	852	82	191	21	1,146	13.37
Total ..	4,532	1,461	1,666	910	8,569	100.00

DISTRIBUTION BY SOURCES OF REFERRAL

Patients Referred by	Psy- chiatric Out- patient Depart- ment General Hospital	Psy- chiatric Out- patient Depart- ment Paya Lebar Clinic	Psy- chiatric Out- patient Depart- ment Kallang Clinic	Psy- chiatric Out- patient Depart- ment Bukit Timah Clinic	Total	Percent- age of Total
Almoners .. ..	..	..	1	1	..	.01
City Council	5	1	..	..	6	.07
Children's Aid Society ..	1	..	..	..	1	.01
Female Out-patient Department	194	..	..	..	194	2.26
General Practitioners ..	62	4	10	2	78	.91
H.M. Services	1	1	..	..	2	.02
Male Out-patient Department ..	235	..	..	..	235	2.75
M.O. i/c Officials	65	1	..	..	66	.78
Old case under out-patient treat- ment (Repeat cases) ..	3,278	1,256	1,421	829	6,784	79.15
Other Hospitals	25	5	1	1	32	.37
Police	1	..	..	..	1	.01
Social Welfare Department ..	10	..	..	..	10	.11
S.A.T.A.	1	..	..	..	1	.01
School Clinics	36	1	..	..	37	.44
Tan Tock Seng Hospital ..	5	..	1	..	6	.08
Wards of General Hospital ..	151	1	2	2	156	1.82
Relatives	30	12	..	..	42	.50
Woodbridge Hospital ..	432	179	231	75	917	10.70
Total ..	4,532	1,461	1,666	910	8,569	100.00

CONSULTATION SERVICES

523. Consultation Services to other departments include Prison, Social and Educational. The General Practitioners, the Public, the Courts, delinquent institutions and other organisations related to mental Health not uncommonly sought psychiatric advice.

IN-PATIENTS

524. No certified patient was admitted during the year. This is in line with modern trend i.e. not to treat the mentally ill as dangerous and different from other form of illness. The public is thereby encouraged to accept them thus facilitating the rehabilitation of the patient. Table 109 summarises the forms of admissions and disposals for 1959.

TABLE 109

ADMISSIONS AND DISCHARGES OF IN-PATIENTS

			Male	Female
1. Number admitted ...	...	...	1,140	903
2. Forms of Admission:—				
(a) Observation	...	...	1,097	893
(b) Certified	...	...	—	—
(c) Voluntary	...	...	11	6
(d) Remand	...	...	33	2
(e) Criminal Lunatic	...	...	7	—
(f) Vagrant	...	...	3	—
3. Number discharged	...	...	1,026	802
4. Absconded	...	...	8	6
5. Death	...	...	33	14

TABLE 110

RACIAL DISTRIBUTION OF IN-PATIENTS REMAINING AT THE END OF
31ST DECEMBER, 1959

	Race	Male	Female
1. Chinese	...	956	585
2. Indian and Pakistani	...	104	61
3. Malays	...	64	24
4. Eurasians	...	5	8
5. Europeans	...	2	2

TABLE 111

DISTRIBUTION BY DIAGNOSIS (IN-PATIENT)

Diagnosis	Remain- ing at end of 1958	YEARLY TOTAL		Total Cases Treated	Remain- ing at end of 1959	Dis- charge in 1959
		Admis- sions	Deaths			
<i>Psychoses:—</i>						
Schizophrenic disorders ..	606	720	13	1,326	717	596
Maniac-depressive ..	399	701	4	1,100	417	679
Involucional melancholia ..	27	82	..	109	32	77
G.P.I. ..	159	29	6	188	101	81
Senile and arteriosclerotic psy- choses ..	184	62	10	246	142	94
Other and unspecified psychoses	15	14	..	29	10	19
<i>Psychoneuroses and disorders of personality:—</i>						
Hysterical reaction ..	3	15	..	18	3	15
Neurotic-depressive reaction ..	75	69	3	144	62	79
Alcoholism ..	1	17	..	18	..	18
Other drug addiction ..	..	1	..	1	1	..
Other psychoneuroses and dis- orders of personality ..	16	309	11	325	200	114
Mental deficiency ..	158	24	..	182	126	56
Total ...	1,643	2,043	47	3,686	1,811	1,828

Treatment of Patients

525. Principal Forms of Physical Treatment were Tranquilliser Therapy, Electric Convulsion Therapy and Insulin Shock Treatment. 1,023 female and 885 male patients received Electric Convulsion Therapy. 31 female and 43 male patients received Insulin Shock Therapy.

Rehabilitation of patients

526. Depending upon the intelligence, aptitude and psychological illness, patients were helped in the Occupational Therapy Treatment, which consists of handcraft, gardening and Laundry work.

527. Patients were encouraged to attend the Social Therapy Unit in the afternoons.

Psychiatric Nurses Training

528. Psychiatric Nurse Training was continued throughout the year on two levels:—

- (1) A three-year programme for Student Nurses.
- (2) A two-year programme for post-base Students.

Number of Students in Training

1. Three-year Students—Male and Female	...	...	48
2. Two-year Students—Male and Female	...	...	7
3. Two-year Students—(Federation Scholarship)	...	...	3
Total			58

Number of Students completing Psychiatric Training

1. A total number of 13 candidates had completed the two-year training.
2. A total number of 3 candidates had completed the three-year training.

State Examinations

- 51 candidates were entered for State Examination during 1959.
- 37 passed the Preliminary Parts I and II.
- 8 passed the Intermediate Psychology.
- 4 passed the Psychiatric State Final.

Teaching

529. A course in psychological medicine was given to the final year Medical Students of the University of Malaya and to the post-graduate students of D.P.H.

530. Health Sisters and the Final Year Nurses of the General Hospital attend for short psychiatric lectures.

Research

531. The Psychological Department had carried out psychological testings including Rorchach personality testing in search for standardisation for the local population.

CHAPTER TWENTY-ONE

INFECTIOUS DISEASES

MIDDLETON HOSPITAL

532. Middleton Hospital is the only institution specially reserved for infectious diseases in the State apart from the Quarantine Station. The Hospital admitted 3,451 cases in 1959, compared with 3,679 in 1958, 3,662 in 1957, 3,831 in 1956, 3,312 in 1955 and 2,914 in 1954. The principal conditions dealt with during the year under review are given in Table (MH)A The Hospital is run by the City Council and Government makes an annual grant. It is the teaching Hospital for infectious diseases for Medical Students from the University of Malaya.

Staff

533. The staff of the Hospital consisted of 1 Medical Superintendent, 1 Resident Medical Officer, 6 Nursing Sisters, 23 Staff Nurses, 29 Nursing Assistants, 3 Assistant Nurses and 7 Hospital Assistants.

TABLE 112

DISEASES DEALT WITH IN MIDDLETON HOSPITAL, 1959

Diseases			Remain- ing 31-12-58	Admit- ted	Dis- charged	Trans- ferred	Died	Remain- ing 31-12-59
Small-pox	..	..	..	10	8	..	2	..
Chickenpox	..	..	..	987	954	..	..	33
Pneumonia	..	..	..	4	4	..	..	..
Bronchopneumonia	..	..	..	10	8	1	1	..
Diphtheria	..	..	22	519	477	1	23	40
Diphtheria Carriers	..	..	8	528	519	..	..	17
A.A. Poliomyelitis (paralytic)	..	..	146	57	147	4	3	49
A.A. Poliomyelitis (Non-paralytic)	..	..	..	1	1	..	..	..
Post-poliomyelitis	..	..	..	8	5	..	..	3
Typhoid Fever	..	..	4	161	141	3	5	16
Measles	..	..	1	129	120	1	3	6
Measles with Bronchopneumonia	..	..	..	17	14	..	3	..
Tuberculous Meningitis	..	..	..	2	1	1	..	..
Mumps	..	..	..	47	47	..	..	..

TABLE 112—*contd.*

Diseases	Remain- ing 31-12-58	Admit- ted	Dis- charged	Trans- ferred	Died	Remain- ing 31-12-59
Whooping Cough	12	8	..	2	2
Amœbic Dysentery	112	104	..	..	8
Bacillary Dysentery (Flexner)	21	15	..	..	6
Bacillary Dysentery (Sonne)	13	13	..	..	..
Bacillary Dysentery (Shiga)	2	2	..	..	..
Clinical Dysentery	69	64	..	..	5
Rubella	9	9	..	..	..
Transverse Myelitis	1	..	1	..	..
Peripheral Neuritis	1	1	..	..	..
Encephalitis	6	4	..	2	..
Encephalitis/C'pox	1	1	..	..	..
Intestinal Obstruction	1	..	1	..	..
Malaria (B.T.)	1	1	..	..	..
Ascariasis	8	6	..	..	2
Ankylostomiasis	2	2	..	..	..
Pulmonary Tuberculosis	3	1	2	..	..
Influenza	34	33	..	..	1
Salmonella Enteritis	1	1	..	..	..
Encephalitis (Jap. B)	1	..	..	1	..
Leprosy	1	..	1	..	..
Whooping Cough with Broncho- pneumonia	3	3	..	..	..
Other Diseases/Carriers	9	669	651	10	7	10
Total	190	3,451	3,365	26	52	198

During the year there were 3,451 admissions with 52 deaths, a mortality rate of 1.5 per cent.

Small-pox

534. The first case of small-pox since 1948, was admitted on 12th April, 1959. She was a Malay woman from Kampong Alexandra who had not been away from Singapore and had not had visitors from outside Singapore. The source of infection was traced to an Indian boy in an adjacent house who had brought the disease from India and whose relatives had hid him in the Kampong for nearly four weeks before discovery. Subsequently 8 other cases of small-pox all from the same area were discovered, making a total of 10 cases.

Classification

535. The cases were classified into the following categories:

1. Discrete	...	...	...	2
2. Semi-Confluent	...	...	...	1
3. Confluent	...	...	...	1
4. Haemorrhagic	...	...	...	1
5. Modified	...	...	...	5

536. One fulminating case with extensive hæmorrhage all over died on the 6th day. An unvaccinated male Chinese infant aged 2 months was admitted on 6th May, 1959 with Confluent Small-pox. He died on 11th May, 1959. The rest of the family had been vaccinated a week before the infant fell ill but the infant was omitted because the parents thought he was too young. He was the tenth and the last case of small-pox in the outbreak.

537. The small number of cases was due in large measure to the early diagnosis of the first case, the immediate search for cases in the area and their prompt removal to Hospital, the vaccination and quarantine of contacts at St. John's Island, and an intensive vaccination campaign in the affected area (Kampong Alexandra) as well as the mass vaccination of the whole population.

TABLE 114

SMALL-POX ADMISSIONS AND DEATHS BY ETHNIC GROUPS

Ethnic			Admissions	Deaths	Mortality Rate
Europeans	..	..	..	..	..
Eurasians	..	..	..	..	..
Chinese	..	..	2	1	50%
Malays	..	..	5	..	..
Indians	..	..	3	1	33%
Others	..	..	..	..	..
Total			10	2	83%

TABLE 115

SMALL-POX ADMISSIONS BY SEX AGE GROUPS
(DEATHS IN BRACKETS)

Sex	Under 1 yr.	3 yrs.	4 yrs.	11 yrs.	20	24	27	29	39	40	Total
Male	1 (1)	..	1	1	..	1	1	..	..	2 (1)	7 (2)
Female	..	..	..	..	1	..	..	1	1	..	3
Total	1 (1)	..	1	1	1	1	1	1	1	2 (1)	10 (2)

Total number of vaccinations done during the small-pox outbreak on Staff and families as well as on patients, their relatives, and anyone entering the Hospital compound = 1,257.

Diphtheria

538. During the year the number of diphtheria admissions remained at a high level. 519 cases of diphtheria were admitted with 23 deaths. The mortality rate of 4.43 per cent is the lowest on record. 3 cases died within 24

hours after admission. 44 cases required tracheotomy operation, of which 10 died. In addition to the clinical cases, there were 528 cases of diphtheria carriers.

TABLE 116

DIPHTHERIA ADMISSIONS AND DEATHS FOR THE LAST 10 YEARS 1950-1959

—	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959
Admissions ..	222	370	427	332	345	460	552	712	548	519
Deaths ..	28	91	80	47	34	41	47	58	34	23

TABLE 117

MONTHLY DIPHTHERIA ADMISSIONS AND DEATHS FOR 1959

—	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Admissions ..	45	33	25	38	46	44	37	56	55	46	41	53	519
Deaths ..	..	1	..	1	4	2	3	5	2	3	..	2	23

TABLE 118

REGIONAL DISTRIBUTION OF DIPHTHERIA ADMISSIONS BY MONTH

—	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Urban ..	38	30	22	35	42	41	34	54	53	43	39	49	480
Rural ..	7	3	3	3	4	3	3	2	2	3	2	4	39
Total ..	45	33	25	38	46	44	37	56	55	46	41	53	519

TABLE 119

DIPHTHERIA ADMISSIONS AND DEATHS BY AGE AND SEX GROUP

Age Group	ADMISSIONS		Total Admissions	DEATHS		Total Deaths
	Male	Female		Male	Female	
Under 1 year ..	19	19	38	1	2	3
1 year ..	22	13	35	..	1	1
2 years ..	36	36	72	1	2	3
3 years ..	47	37	84	5	2	7
4 years ..	24	15	39	1	2	3
5 years ..	19	17	36	1	..	1
6-10 years ..	73	58	131	3	2	5
11-15 ..	11	33	44	..	..	..
16-20 ..	5	13	18	..	..	..
21+ ..	2	20	22	..	..	..
Total ..	258	261	519	12	11	23

TABLE 120

DIPHTHERIA ADMISSIONS AND DEATHS BY ETHNIC GROUP

Nationality	ADMISSIONS		Total	DEATHS		Total
	Male	Female		Male	Female	
Europeans ..	..	..	..	..	..	..
Eurasians ..	2	1	3	..	..	..
Chinese ..	241	228	469	11	6	17
Indians ..	5	16	21	..	2	2
Malays ..	9	15	24	1	3	4
Others ..	1	1	2	..	..	..
Total ..	258	261	519	12	11	23

TABLE 121

DIPHTHERIA TYPE OF CASES

Type	Admissions		Deaths	
Laryngeal	75	..	12
Pharyngeal	95	..	8
Faucial	263	..	3
Aural	8	..	..
Nasal	74	..	..
Cutaneous	4	..	..
Total	519	..	23

Acute Anterior Poliomyelitis

539. There were 66 admissions with 3 deaths, of which 1 case died from Broncho-pneumonia and 1 died from Gastro-Enteritis.

TABLE 122

ADMISSIONS AND DEATHS OF POLIOMEYLITIS, 1950-1959

	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959
Admissions ..	81	78	50	41	71	19	29	52	404	66
Deaths ..	10	8	8	5	2	2	..	5	12	3

TABLE 123

POLIOMYELITIS ADMISSIONS AND DEATHS BY MONTH

—	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Admissions ..	13	9	7	4	5	2	..	2	4	7	9	4	66
Deaths ..	..	..	..	..	..	..	..	..	..	2*	1†	..	3

* 1 case died of Broncho-pneumonia.

† died from gastro-enteritis.

TABLE 124

REGIONAL DISTRIBUTION OF POLIOMYELITIS CASES BY MONTH

—	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Urban ..	7	6	6	3	4	1	..	2	3	6	8	4	50
Rural ..	6	3	1	1	1	1*	..	..	1	1	1	..	16
Total ..	13	9	7	4	5	2	..	2	4	7	9	4	66

* Federation of Malaya.

TABLE 125

AGE, SEX AND ETHNIC GROUPS OF POLIOMYELITIS CASES

Age Group		Europeans		Eurasians		Chinese		Indians		Malays		Others		Total	
		M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Under 1 year	..	..	..	..	..	8	8	..	..	..	..	..	..	8	8
1 year	..	..	..	..	..	1	1	..	1	..	..	1	..	2	2
2 years	..	1	..	..	1	11	2	2	..	2	1	..	..	16	4
3 „	..	..	..	..	..	7	2	..	..	..	..	..	..	7	2
4 „	..	..	..	1	..	4	2	..	..	..	..	..	..	5	2
5 „	..	..	..	..	..	2	..	..	..	..	..	..	..	2	..
6—10 „	..	..	..	..	..	2	2	..	..	..	..	..	..	2	2
11—14 „	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
15—19 „	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..
20+ ..	..	1	..	..	..	1	1	..	..	..	..	..	..	2	1
Total	..	2	..	1	1	37	18	2	1	2	1	1	..	45	21

TABLE 126

POLIOMYELITIS ADMISSIONS AND DEATHS BY ETHNIC GROUPS

Nationality			Admissions	Deaths
Europeans	..	..	2	..
Eurasians	..	..	2	..
Chinese	..	..	55	2*
Indians	..	..	3	1†
Malays	..	..	3	..
Javanese	..	..	1	..
Others	..	..	..	..
Total			66	3

* 1 case died of Bronchopneumonia.

† died from gastro-enteritis.

Typhoid Fever

540. 161 cases of typhoid fever were admitted with 5 deaths, of these 2 cases had perforation and 1 case died of sudden severe intestinal hæmorrhage.

541. A total of 169 persons employed by various Ice Cream Manufacturers and Dairy farms were investigated for the typhoid carrier state during the year.

TABLE 127

 TYPHOID FEVER—ADMISSIONS AND DEATHS BY ETHNIC GROUPS
 (DEATHS IN BRACKETS)

Age	0—10		11—19		20+		Total	
Sex	M.	F.	M.	F.	M.	F.	M.	F.
Europeans	..	..	1	..	..	..	1	..
Chinese	17	17	15 (1)	14	40 (3)	12	72 (4)	43
Indians	2	1	1	2	5	2	8	5
Malays	4	..	7	3	11 (1)	2	22 (1)	5
Javanese	..	3	..	1	..	..	..	4
Others	..	..	1	..	..	..	1	..
Total	23	21	25 (1)	20	56 (4)	16	104 (5)	57

TABLE 128

TYPHOID FEVER—ADMISSIONS AND DEATHS BY MONTH

Month	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Admissions ..	27	14	12	10	8	2	11	8	14	17	21	17	161
Deaths ..	1	1	..	..	1	..	..	..	1	..	1	..	5

Chicken-pox

542. 987 cases of Chicken-pox were admitted during the year.

TABLE 129

CHICKEN-POX ADMISSIONS BY AGE, SEX AND ETHNIC GROUPS

Age	0—10		11—19		20+		Total		Total
Sex	M.	F.	M.	F.	M.	F.	M.	F.	Admissions
Eurasians ..	5	3	3	5	36	6	44	14	58
Chinese ..	52	50	43	14	57	24	152	88	240
Indians ..	59	43	62	35	290	71	411	149	560
Malays ..	26	14	12	6	36	6	74	26	100
Others ..	2	11	5	5	4	2	11	18	29
Total ..	144	121	125	65	423	109	692	295	987

TABLE 130

CHICKEN-POX CASES: REGIONAL DISTRIBUTION BY MONTH

—	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Urban ..	2	4	128	124	89	41	61	81	82	103	76	106	897
Rural ..	..	..	17	14	8	5	8	6	14	3	10	5	90
Total ..	2	4	145	138	97	46	69	87	96	106	86	111	987

Measles

543. 129 cases of measles were admitted. 17 cases had Broncho-pneumonia. There were 3 deaths from Broncho-pneumonia and 3 deaths from gastro-enteritis.

Dysentery

Type of Dysentery			Admissions	Deaths
Amoebic Dysentery	...	...	112	—
Bacillary Dysentery				
(a) Flexner	...	...	21	—
(b) Sonne	...	...	13	—
(c) Slight	...	...	2	—
Clinical Dysentery	...	...	68	—
Total			216	—

TABLE 131

ADMISSIONS OF THE MORE IMPORTANT DISEASES FOR THE LAST 10 YEARS

Diseases	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959
Small-pox .. ..	..	..	..	..	..	..	..	..	..	10
Plague .. ..	..	..	..	..	..	..	..	..	..	..
Cholera .. ..	..	..	..	..	..	..	..	..	..	..
Chicken-pox	422	610	450	836	1,313	1,769	1,488	1,039	472	987
Chicken-pox/Broncho/Pneumonia ..	..	..	..	..	..	..	..	..	1	..
Measles	50	204	142	117	182	200	301	153	357	146
Rubella	1	11	9	..	1	..	86	36	7	9
Diphtheria	222	370	427	382	345	460	552	712	547	519
Cerebro Spinal/Meningitis	4	4	2	4	2	..	..	..	4	..
Typhoid Fever	88	91	117	91	125	114	76	118	127	160
A.A. Poliomyelitis	81	78	50	41	70	19	37	52	405	66
Erysipelas	12	4	3	..	3	..	2	3	1	..
Whooping Cough	27	5	3	..	10	5	85	30	38	15
Scarlet Fever .. ..	..	79	..	..	..	..	..	1	..	..
Mumps	14	..	15	9	35	54	52	14	43	47
Tropical Typhus	3	7	92	4	7	..	1	..	1	..
Amoebic Dysentery	90	105	22	134	122	136	126	197	156	112
Bacillary Dysentery	9	18	9	25	18	17	26	74	60	36
Clinical Dysentery	17	40	..	16	34	35	63	150	92	68
Other Diseases/Carriers .. ..	..	..	..	..	..	..	..	..	..	..
Observation	731	591	455	440	647	503	936	1,083	1,368	1,272
Pneumonia .. ..	..	..	..	..	..	..	..	..	..	4
Total ..	1,771	2,217	1,796	2,049	2,914	3,312	3,831	3,662	3,679	3,451

TABLE 132
OTHER DISEASES

Diseases	Remain- ing 31-12-58	Admit- ted	Dis- charge	Trans- ferred	Died	Remain- ing 31-12-59
Acute Tonsillitis	1	183	182	..	..	2
Acute Nasopharyngitis	8	8	..	..	..
Acute Bronchitis	2	2	..	..	..
P.U.O.	10	10	..	..	..
Rheumatism	9	9	..	..	..
Arthritis	5	5	..	..	..
Gastro-enteritis	23	17	1	4	1
Hæmorrhoids	2	2	..	..	..
Infective hepatitis	4	3	..	1	..
Pyelitis	5	5	..	..	..
Acute Infective Polioneuritis	3	2	..	..	1
Carried forward ..	1	254	245	1	5	4

TABLE 132—continued

Diseases	Remain- ing 31-12-58	Admit- ted	Dis- charged	Trans- ferred	Died	Remain- ing 31-12-59
<i>Brought forward</i> ..	1	254	245	1	5	4
Dermatitis	7	7	..	..	..
Yaws	1	1	..	..	..
Impetigo	10	10	..	..	..
Typhoid Carrier	1	..	..	..	..
Typhoid investigations	169	169	..	..	..
Measles with congenital heart disease	1	1	..	..	..
Acute lymphatic leukæmia	1	1	..	..	..
Asthmatic Bronchitis	3	3	..	..	..
Allergic Rash	2	2	..	..	..
Ac. Septicæmia	1	..	..	1	..
Serous Meningitis	1	1	..	..	..
Steven-Johnson Syndrome	1	..	1	..	..
Pemphigus	2	..	1	1	..
Hydropneumothorax	1	..	..	..	1
Generalised Vaccinia	1	1	..	..	..
Carcinoma colon	1	1	..	..	..
Carcinoma rectum	1	1	..	..	..
Tuberculous Hip Joint	1	..	1	..	..
Thyrotoxicosis	1	..	1	..	..
Parametritis	1	..	1	..	..
N.A.D.	5	5	..	..	..
Observations	8	203	203	..	..	..
Total ..	9	669	651	6	7	5

TABLE 133

NUMBER OF ADMISSIONS, DAYS IN HOSPITAL AND DEATHS BY
ETHNIC GROUPS

Ethnic Group	REMAINING 1958		ADMITTED 1959		TOTAL		Deaths
	No. of Patients	No. of days in Hospital	No. of Patients	No. of days in Hospital	No. of Patients	No. of days in Hospital	
Europeans .. ..	..	..	14	139	14	139	..
Eurasians .. ..	..	..	36	300	36	300	..
Chinese	146	21,279	2,179	25,658	2,325	46,937	38
Indians and Pakistanis	22	2,748	826	5,997	848	8,745	7
Malays	17	1,605	326	2,554	343	4,159	5
Javanese	5	843	8	83	13	926	2
Others .. ..	..	..	62	552	62	552	..
Total ..	190	26,475	3,451	35,283	3,641	61,758	52

TABLE 134

NUMBER OF ADMISSIONS, DAYS IN HOSPITAL AND DEATHS BY ETHNIC GROUPS

			Remaining 1958	Admitted 1959	Total treated	Discharged	Transferred	Died	Remaining 1959	Deaths Percent- age	Average Daily No. of Patients
										%	
Male	..	..	86	2,074	2,160	1,991	20	30	119	1.38	..
Female	..	..	104	1,377	1,481	1,374	6	22	79	1.48	..
Total	..		190	3,451	3,641	3,365	26	52	198	2.86	167

Maximum capacity of the hospital = 250 beds.

Ambulance

544. A total of 1,651 cases of infectious diseases were removed by the Hospital Ambulance during the year.

CHAPTER TWENTY-TWO

RADIOLOGY

545. During the year the number of radio-diagnostic examinations for all X-Ray Departments amounted to 191,167, representing an increase of 18.4 per cent over 1958. All Departments shared an over all increase of work, but about 50 per cent of this increase was due to addition of cases done in the newly opened X-Ray Department in the Institute of Health.

546. The number of cases treated in the Radio-therapy Section was 460, which represented a decrease of 22 per cent compared to 1958. This was due to the unfortunate breakdown of either one or the other of the two deep X-Ray therapy machines for the greater part of the year.

547. The Staff position at the end of the year is given in Table 135. Dr. F. Y. Khoo, M.B., B.S., D.M.R.D., Senior Radiologist was in-charge of the Department; Dr. K. Lal, M.B., B.S., was in-charge of Radio-therapy Section.

TABLE 135

STAFF POSITION IN THE DEPARTMENT OF RADIOLOGY ON
31ST DECEMBER, 1959

	Radio- logists	Radio- therapists	Radiographers	X-Ray Assistants	X-Ray Tech- nicians
General Hospital ..	4	4	17 (Diagnostic) 3 (Therapeutic)	2	2
Tan Tock Seng Hospital ..	..	..	1	..	2
Kandang Kerbau Hospital ..	..	..	1 (part-time)	..	..
Institute of Health ..	..	..	1	..	1
Woodbridge Hospital	..	..	..	..	..
On Scholarship in the United Kingdom ..	1	..	9 (Diagnostic) 1 (Therapeutic)	..	..
Total ..	5	4	33 (5 on proba- tion)	2	5

TABLE 136

RADIOLOGIC EXAMINATIONS DONE IN THE DEPARTMENT OF RADIOLOGY

	1955	1956	1957	1958	1959
General Hospital ..	53,880	68,662	69,886	71,331	76,515
Tan Tock Seng Hospital ..	60,406	67,812	77,292	83,019	91,000
Kandang Kerbau Hospital ..	3,563	4,266	4,435	4,206	4,647
Woodbridge Hospital ..	3,970	4,106	3,730	2,911	3,290
Institute of Health ..	—	—	—	—	15,715
Total ..	121,819	144,846	155,343	161,467	191,167

TABLE 137

RADIOTHERAPY TREATMENTS DONE IN THE DEPARTMENT OF RADIOLOGY

	1955	1956	1957	1958	1959
Deep X-Ray Therapy:					
Malignant Cases ..	353	241	318	360	251
Non-Malignant Cases ..	98	61	37	49	28
Superficial X-Ray Therapy ..	136	77	90	151	128
Radium Treatment ..	12	1	12	30	53
Total ..	599	380*	457	590	460

* Total cases for 1956 show a decrease because very few cases were accepted for treatment during the period July–October, 1956.

TABLE 138

GENERAL HOSPITAL: SUMMARY OF RADIOTHERAPY TREATMENT,
1958 AND 1959

SUMMARY OF WORK OF RADIOTHERAPY SECTION IN 1959

(1958 figures
in brackets)

DEEP X-RAY THERAPY

Malignant Cases

Nasopharyngeal tumours	...	...	72
Breast	...	...	24
Bronchus	...	...	22
Cervix and uterus	...	...	2
Ovary	...	...	2
Oesophagus	...	...	6
Mouth: Tongue	4	...	
Palate	3	...	7
Tonsil	...	...	1
Larynx	...	...	15
Cheek and buccal mucosa	...	...	2
Nose/nostril	...	...	1
Alveolus and antrum	...	...	7
Seminoma/teratoma	Tests	...	7
Chronic Myeloid Leukaemia	...	...	3
Thyroid	...	...	3
Pituitary tumours	...	...	1
Scalp	...	...	3
Ear	...	...	1
Osteogenic Sarcoma	...	...	1
Liver	...	...	5
Wilms Tumour	...	...	4
Orbit/Retinoblastoma	...	...	6
Bladder	...	...	8
Lymphosarcoma	...	...	3
Hodgkin's Disease	...	...	5
Eosinophilic Granuloma	...	...	4
Neuroblastoma	...	...	5
Mediastinal obstruction	...	...	5
Secondary Glands	...	...	3
Rodent Ulcers	...	...	2
Medullablastoma	...	...	3
Lip	...	...	1
Kidney	...	...	1
Miscellaneous	16

Carried forward ...

251

(360)

TABLE 138—*continued*

<i>Brought forward</i> ...	251	(360)
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Non Malignant Cases

Ankylosing Spondylitis	4		
Tuberculous Glands	4		
Artificial Menopause	1		
Other Arthritis	...	...	15		
Haemangioma	...	...	1		
Fibroma Nasopharynx	...	...	1		
Uvuetis	...	...	1		
Chronic Ulcers	...	...	1		
				28	(49)
Total	...			279	(409)

SUPERFICIAL X-RAY THERAPY

Haemangioma	...	...	5		
Keloids	...	...	79		
Rodent Ulcers	...	...	6		
Skin Nodules	...	...	2		
Cheiopompholyx	...	...	3		
Acne	...	...	4		
Eczema	...	...	11		
Squamous cell carcinoma	...	...	2		
Ring worm	...	...	1		
Chronic Dermatitis	3		
Epilation	1		
Miscellaneous	11		
				128	(151)

RADIUM CASES	53	(30)
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Total	...	181	
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Grand Total	...	460	(590)
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Teaching and Publications

548. Lectures in Radiology were given to 85 Final Year Medical Students and 21 Fourth Year Dental Students by Dr. F. Y. Khoo. A few Radiotherapy Sessions will be devoted by Dr. K. Lal to the Final Year Medical Students.

549. A paper on Cardiac Roentgenology was written by Dr. F. Y. Khoo for the Proceedings of the Academy of Medicine, Singapore.

TABLE 139
SUMMARY OF DIAGNOSTIC RADIOLOGIC EXAMINATIONS 1959

Classification	General Hospital		Tan Tock Seng Hospital		Kandang Kerbau Hospital		Woodbridge Hospital		Institution of Health		Total
	1959	(1958)	1959	(1958)	1959	(1958)	1959	(1958)	1959	(1958)	
1. Chest ..	29,248	(28,396)	86,194	(78,352)	1,911	(1,563)	3,112	(2,726)	15,715	136,180	(111,037)
2. Bronchography ..	153	(200)	193	(263)	..	..	..	..	..	346	(463)
3. Gastro-Intestinal Tract (Ba. Meals/Enemas) ..	2,358	(2,710)	6	..	..	..	..	..	..	2,364	(2,710)
4. Renal Tract ..	3,625	(1,919)	63	(71)	61	(34)	..	..	..	3,749	(2,024)
5. Gall-Bladder ..	478	(487)	103	(66)	79	(26)	..	..	..	660	(579)
6. Heart ..	205	(633)	..	..	..	..	..	..	..	205	(633)
7. Pregnancy ..	..	..	..	..	1,627	(1,659)	..	..	..	1,627	(1,659)
8. Salpingography ..	43	(43)	..	..	..	..	..	..	..	43	(43)
9. Encephalography and Ventriculography ..	16	(46)	..	..	..	..	..	..	..	16	(46)
10. Bones and Joints:—											
(a) Injuries ..	29,069	(25,211)	818	(766)	..	..	30 (314)	(55)	..	40,171	(35,004)
(b) Diseases ..	9,774	(8,528)	..	..	..	332	148	(130)	..	..	..
11. Sinuses ..	1,203	(1,168)	52	(112)	101	(91)	..	..	..	1,356	(1,371)
12. Sinogram ..	..	..	5	..	..	..	..	..	..	5	..
13. Teeth ..	2	(49)	..	..	..	..	..	..	..	2	(49)
14. Tomography ..	44	(67)	3,566	(3,389)	..	..	..	..	..	3,610	(3,456)
15. Myelography ..	48	(56)	..	..	..	..	..	..	..	48	(56)
16. Arteriography ..	89	(89)	..	..	..	..	..	..	..	89	(89)
17. Angiocardiology Cerebral Angiography ..	45	(100)	..	..	..	..	..	..	..	45	(100)
18. Pelvimetry ..	..	..	..	..	536	(519)	..	..	..	536	(519)
19. Miscellaneous ..	115	(1,472)	..	..	..	..	..	..	..	115	(1,472)
Total ..	76,515	(71,331)	91,000	(83,019)	4,647	(4,206)	3,290	(2,911)	15,715	191,167	(161,467)
Average per month ..	6,376	(5,944)	7,583	(6,918)	387	(351)	274	(243)	1,310	15,931	(13,456)

CHAPTER TWENTY-THREE

LABORATORY SERVICE

550. The work of the Department of Pathology comprises of Autopsies on Coroner's and Hospital cases, Histological examination of Biopsy and Autopsy specimens, Bacteriological, Biochemical and Hæmatological investigations, Serological tests of blood and Cerebro-spinal fluid, pregnancy tests, preparation of T.A.B. Cholera and Autogenous vaccines and training of all Medical Laboratory Technicians in the Ministry of Health.

551. Work done by the Department served Government Hospitals, Clinics and General Practitioners; it is not inclusion of all the Laboratory Service in Singapore, as many similar investigations are done in the City Council Laboratories and in the Clinical Laboratories of various Hospitals.

552. In the latter part of October, 1959, all cultures for tuberculosis were transferred to the Tuberculous Control Laboratory at Tan Tock Seng Hospital.

Staff

553. The professional staff of the Department consisted of one Senior Pathologist, one Pathologist, and 5 Assistant Pathologists. Dr. L. S. Da Silva, L.M.S., DIP.BACT., M.D., Senior Pathologist was in-charge till 26th November, 1959 and Dr. K. Shanmugaratnam, L.M.S., M.D., D.C.P., PH.D., was acting Senior Pathologist from 27th November, 1959.

554. Table 140 shows a progressive increase in all classes of work done in the Department.

TABLE 140

INVESTIGATIONS DONE IN THE DEPARTMENT OF PATHOLOGY

	1955	1956	1957	1958	1959
Post-mortem examinations ..	2,172	2,336	2,627	2,576	2,509
Histological examinations ..	8,728	9,444	10,120	11,374	12,658
Bacteriological examinations ..	33,406	44,576	50,107	43,357	48,851
Serological examinations ..	74,200	74,196	71,746	72,347	77,776
Biochemical examinations ..	5,881	7,190	..	..	10,312
Hæmatological examinations ..	10,426	25,974	29,548	32,587	31,494 (till Oct.)
Total ..	134,813	163,716	164,148	162,038	183,600

Post-Mortem Examinations

555. During the year 2,509 post-mortem examinations were done; of these Coroner's cases accounted for 1,229 (49 per cent). Table 141 shows the comparative increase in malignant diseases.

TABLE 141
SUMMARY OF CAUSES OF DEATH IN POST-MORTEM

	1955	1956	1957	1958	1959
Tuberculosis	179	125	124	83	55
Hypertension	76	71	51	86	27
Coronary	76	86	85	73	94
Cardiovascular Syphilis ..	23	20	19	31	14
Malaria	2	1	1	..	1
Beri Beri	14	6	11	21	18
Amoebiasis	11	4	4	3	7
Bacillary Dysentery	1	4	3	6	2
Typhoid	4	1	..	3	1
Diphtheria	3	8	3	4	6
Lobar Pneumonia	66	58	45	39	28
Malignant Tumours	101	109	113	91	119

TABLE 142
AGE, SEX AND RACE DISTRIBUTION OF AUTOPSIES ON ALL DEATHS
(CORONER'S AND WARD CASES—1959)

Age	Chinese		Indians		Malays		Others		Total		Grand Total
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Under 1 year ..	473	341	13	8	4	1	2	1	492	351	843
1-10 yrs.	192	202	9	9	5	7	1	..	207	218	425
11-20 „	69	29	8	3	2	1	..	2	79	35	114
21-30 „	85	42	13	7	5	3	8	2	111	54	165
31-40 „	78	41	38	7	9	3	4	..	129	51	180
41-50 „	133	48	48	2	9	..	2	..	192	50	242
51-60 „	195	35	41	4	5	2	6	1	247	41	288
61-70 „	109	36	17	1	2	..	2	1	130	38	168
Over 71 yrs. ..	46	16	2	..	1	..	..	..	49	16	65
Total ..	1,380	789	189	41	42	17	25	7	1,636	854	2,490

Autopsies of Unknown Cases .. 19

Total .. 2,509

556. Deaths from violence and other unnatural causes increased to 682 in 1959 compared with 561 in 1958 and 541 in 1957. Table 143 gives a summary of the main causes of death under this category.

TABLE 143

DEATHS FROM VIOLENCE AND OTHER UNNATURAL CAUSES

	1955	1956	1957	1958	1959
Total Necropsis	2,172	2,336	2,627	2,576	2,509
Coroner's Cases	1,034	1,042	1,255	1,170	1,229
Injuries from Cutting and Piercing Instruments ..	20	21	21	29	43
Injuries by Blunt Instruments ..	8	10	10	15	19
Injuries by Firearms ..	15	23	7	5	7
Hanging	64	51	77	58	80
Drowning	68	72	68	67	81
Caustic Soda Poisoning ..	41	42	28	13	19
Other forms of Poisoning ..	17	26	16	21	23
Vehicle Accidents	148	160	162	194	191
Other Forms of Violence and Unnatural Deaths ..	156	139	152	159	219
Deaths from all Forms of Violence and Unnatural Causes	527	544	541	561	682

Histology

557. 12,658 Histological Sections were prepared and examined as compared with 11,374 in 1958; 10,120 in 1957; 9,444 in 1956; 8,728 in 1955. Of the 12,658 sections prepared, 11,314 of these sections were from 8,497 biopsy tissues taken from 7,297 cases; the remaining 1,344 sections were prepared from autopsy tissues from 460 cases.

558. The incidence of disease in the biopsy tissues is given in Table 144.

TABLE 144

INCIDENCE OF DISEASE IN BIOPSY TISSUES

	1955	1956	1957	1958	1959
Inflammation ...	1,393	1,575	1,548	1,781	1,575
Tuberculosis ...	240	332	292	287	303
Benign tumor ...	711	777	651	855	785
Malignant tumor ...	698	815	962	1,154	1,294
Others ...	2,166	3,140	3,121	3,643	4,540
Total ...	5,208	6,639	6,574	7,717	8,497

Bacteriology

559. 48,851 specimens were examined in 1959, compared with 43,357 in 1958.

560. 3,418,000 c.c. of media of different types, 740 c.o. of vaccines and 25,200 c.c. of Agglutinable suspensions were prepared in 1959.

TABLE 145

BACTERIOLOGICAL EXAMINATIONS, 1958, 1959

	1958	1959
Throat and Nasal Swabs for Culture ...	9,081	8,968
Fæces for Shigella and Salmonella Group ...	2,274	3,210
Blood for Culture ...	1,371	1,954
Agglutination Test for Enteric Group (Widal Reaction) ...	1,524	2,031
Agglutination Test for Typhus Group (Well-Felix Reaction) ...	1,524	2,031
VI Agglutination Test for Typhoid ...	45	4
Blood Clot Cultures for Enteric Group ...	1,409	980
Urine Cultures ...	2,695	3,103
Agglutination Test for Crucella Group ...	16	13
Agglutination Test for Glandular Fever (Paul Bunnell) ...	45	66
Cerebro-Spinal Fluid Cultures ...	955	1,319
Urethral and Vaginal Swabs for Cultures for N. Gonorrhœa ...	91	98
Swabs for Purperal Sepsis (Cultures) ...	724	1,952
Tissue for Clostridia Group ...	19	4
Total number of Antibiotic Tests carried out on Pyogenic and Pathogenic Organisms ...	11,440	8,752
Sputum, Pus, Pleural Fluid, Gastric Lavage, Cerebro-Spinal Fluid etc. (Cultures) for M. Tuberculosis ...	6,666	2,783
Pregnancy Tests ...	230	315
Sterility Tests ...	973	1,057
Animal inoculations Tests ...	152	153
Virulence Tests for K.L.B. ...	332	173
Culture for Amœba ...	1,704	1,714
Miscellaneous ...	87	12
		8,159
Total ...	43,357	48,851

Serology

TABLE 146

WORK DONE IN SEROLOGY SECTION

<i>Blood</i>	1957	1958	1959
V.D.R.L. Tests ...	52,945	53,158	58,265
Kahn Tests—Qualitative ...	8,205	9,214	10,191
Kahn Tests—Qualitative ...	21	87	—
Wasserman Tests ...	3,862	4,005	3,934
Price Precipitation Test ...	400	284	—
Gonococcus Complement Fixation Test ...	190	226	322
Filarial Complement Fixation Test ...	1,823	1,512	—
Total ...	67,446	68,486	72,712
<i>C. S. F.</i>			
V.D.R.L. Tests ...	1,615	1,434	1,490
Kahn Tests ...	1,561	1,264	1,359
Wasserman Tests ...	775	792	788
Colloidal Gold Test ...	349	371	490
Total ...	4,300	3,861	4,127
Total Number of Specimens examined =	71,746	72,347	78,839

Serology

561. 58,265 Blood Specimens and 1,490 Cerebro-Spinal fluid specimens were examined.

562. A total number of 9,871 specimens of blood were chosen from the hospital's cases to compare V.D.R.L. Test against Kahn Test. The result obtained remarkably agreeable.

563. Complement Fixation Test for Eosinophilic lung disease was carried out on suspected and acute Eosinophilic lung cases from Medical Unit I, General Hospital, Singapore by using type *Dirofilaria immitis* worm powder as the antigen which had been obtained from Prof. Paul C. Beaver, Department of Tropical Medicine and Public Health, Tulane University, New Orleans.

564. The results were well correlated with the clinical findings and it is now considered to be a useful diagnostic test for the disease.

565. The summary of the test is shown below:—

Serum Negative Reaction ...	...	...	175
Serum Titre Dilution from 1/5 to 1/ 40	...	...	531
Serum Titre Dilution from 1/5 to 1/ 8	...	...	82
Serum Titre Dilution from 1/5 to 1/160	...	...	36
Serum Titre Dilution from 1/5 to 1/320	...	...	17
Serum Anti-Complementary Reaction	...	...	3
Total =			844

Biochemical Examinations

566. Total number of analysis carried out was 10,312 in 1959.

Teaching

567. This Department undertake the training of all Medical Laboratory Technicians in the Ministry of Health. This training is based on that of the Institute of Medical Technology, London. Examinations were carried out in 1959 under a Board of Examiners with the Senior Pathologist as Chairman.

CHAPTER TWENTY-FOUR

BLOOD TRANSFUSION SERVICE

568. The Blood Transfusion Service has continued to serve all Hospitals in Singapore (except the British Military Hospital) from the Centre at the General Hospital. It has not yet been found possible to decentralise the Laboratory work, nor will it be until there are more trained Pathologists and Laboratory Assistants available.

569. The work of the Department has continued on the same lines as formerly, but the volume of work done has continued to increase as more blood is required for transfusions to patients in our hospitals and more investigations are undertaken, particularly for cases of Neo-natal Jaundice.

570. The policy of not paying Donors and not charging for transfusions given has continued. Friends and relatives of patients who receive transfusions are asked to become donors and they are coming forward in increasing numbers, but as the majority of patients to whom transfusions are given are from the poorest and least well nourished classes, we cannot hope or expect to obtain all the blood we need from their relatives, and we must continue to rely largely on the altruism of Voluntary Donors.

571. The amount of blood handled during the year increased to 11,299 flasks (9,952 in 1958) an average of nearly 942 a month, the greatest part going to patients in the Surgical Wards of General Hospital and to women in Kandang Kerbau Maternity Hospital.

Donors and Recipients

572. We are glad to record that the number of donation coming from relatives and friends of patients has increased, 2,816 (1,902 in 1958) though the amount coming from this source is still far from satisfactory. For the first time since the inception of the Service more blood was given by the Chinese than by any other community i.e. 4,611 (3,029 in 1958). However, this still leaves much to be desired, as nearly twice that number of transfusions were given to Chinese patients i.e. 8,795 (7,330 in 1958). There has been a notable decrease in the amount of blood taken from Expatriates 2,963 (as against 3,735 in 1958) but we are still far too dependent on the British Service men, particularly R.A.F. personnel, without whose help the bank could hardly be maintained at a safe level. However, we are glad to record that the local forces, especially the Police, Harbour Board Police and Singapore Infantry Regiment and Singapore Military Forces are staunch supporters of the Service.

573. During the year 5,753 people made donations for the first time. Many regular donors come every 3 or 4 months. To date 800 people have given more than 10 times, 180 have given more than 20 times, 37 have given more than 30 times and 4 have given more than 40 times.

574. The Mobile Unit has been used to visit different places and Donor Sessions are held regularly at the R.A.F. Hospital at Changi, Changi Gaol, Outram Gaol, occasionally at Seletar, Pulau Bukom, Naval Base, Phoenix Park, Kranji Wireless Station and R.E.M.E. 40 Base Workshop.

TABLE 147

DONORS AND RECIPIENTS, 1953-59

			<i>Donors</i>	<i>Recipients</i>
1953	...	...	6,515	6,317
1954	...	...	6,684	6,519
1955	...	...	7,470	7,492
1956	...	...	7,987	7,769
1957	...	...	9,221	9,092
1958	...	...	9,952	9,622
1959	...	...	11,602	11,299

TABLE 148

ANALYSIS OF DONORS AND RECIPIENTS BY RACE, 1959

Donors	Male	Female	Total No.	Recipients	Male	Female	Total No.
Europeans ..	2,763	200	2,963	Europeans ..	241	63	304
Chinese ..	4,463	148	4,611	Chinese ..	4,096	4,699	8,795
Indians ..	1,590	20	1,610	Indians ..	367	633	1,000
Malays ..	1,613	20	1,633	Malays ..	311	701	1,012
Eurasians ..	660	17	677	Eurasians ..	41	96	137
Others ..	101	7	108	Others ..	23	28	51
Total ..	11,190	412	11,602	Total ..	5,079	6,220	11,299

TABLE 149

CATEGORIES OF DONORS 1953-1959

	1953	1954	1955	1956	1957	1958	1959
Total individual donors	n.a.	3,963	5,502	4,996	5,371	5,061	5,549
Donations from Service Personnel ..	1,991	2,198	1,689	2,162	2,955	2,926	2,506
Relatives:—							
Taken ..	431	376	279	859	1,583	1,965	2,826
Offered and rejected	90	65	26	133	107	401	353
New donors ..	3,069	2,817	2,227	3,394	3,788	4,197	5,153
Voluntary donors offered and rejected ..	170	120	316	443	244	408	285

TABLE 150
ANALYSIS OF DISTRIBUTION 1953-1959

	1953	1954	1955	1956	1957	1958	1959
General Hospital ..	3,306	3,606	4,197	4,239	5,132	5,549	6,419
Kandang Kerbau Hospital	2,737	2,433	2,888	2,985	3,516	3,524	4,182
Tan Tock Seng Hospital	32	18	20	30	23	47	72
Youngberg Memorial Hospital ..	172	163	149	155	143	149	181
R.A.F. Hospital, Changi	38	125	153	191	188	252	204
Asian Hospital, Naval Base	2	32	6	7	..	..	..
Middleton Hospital ..	3	33	8	9	16	..	..
Trafalgar	2	8	6	42	25	..	..
St. Andrew's Mission Hospital ..	3	6	1	8	6	..	..
Singapore Nursing Home .. ..	..	12	10	24	16	..	..
Other Hospitals ..	22	83	54	79	27	101	241
Total ..	6,317	6,519	7,492	7,769	9,092	9,622	11,299

Publicity and Propaganda

575. As previously the lack of a Donor Organiser has greatly hampered our work and progress, but during the year the Service has had a good deal of publicity. Firstly, at the Constitution Exposition, which lasted for 5 weeks, many thousands of people must have seen the Blood Transfusion Service Stall in the Ministry of Health Pavilion. Several thousand appeal leaflets and pamphlets in all languages were handed out. Later in the year the Ministry of Health conducted a Campaign for Donors, which was well reported in the press and by Radio Singapore and the department participated in the Loyalty week exhibition at the Victoria Memorial Hall.

576. It is sincerely hoped that a Chinese Speaking Donor Organiser will be appointed soon and that he or she will be able to follow up these attempts at educating public opinion. During almost the whole year the demand for blood for transfusion was greater than the supply and difficulty was experienced in keeping the bank balanced.

577. We are grateful to Radio Singapore and the press for their help and co-operation in making our needs known, particularly when they were most pressing.

578. *Staff of the Service* consisted of 1 Trainee, 2 Medical Officers, 1 Sister Supervisor and Laboratory Technicians. Dr. (Mrs.) M. M. H. Gibson-Hill, M.R.C.S., L.R.C.P. was in-charge.

Technical

579. The Laboratory has remained open day and night through the year, some of the Laboratory Technicians work 3 shifts so that the Laboratory is never left unattended. The work has continued to increase in volume.

580. At times the Laboratory Technicians are really hard pressed by the amount of "Crossmatching" required. Over one third of the work done is for patients in Kandang Kerbau Maternity Hospital.

581. The desirability of decentralising the Laboratory work becomes increasingly urgent. Though it is realised that it is not yet possible for this work to be done in Kandang Kerbau Maternity Hospital, it is hoped it will not be too long before that hospital acquires sufficient trained staff to provide a "round the clock" laboratory service and to take over the crossmatching of blood for its own patients.

582. The Department has continued to be the central depot for the preparation, cleaning and distribution of all apparatus for intravenous therapy in all the hospitals. During the year 13,428 blood giving sets, 14,764 saline giving sets and 13,771 taking sets were made and distributed.

583. Besides the routine grouping of Donors' and patients' blood and matching for transfusions there has been a marked increase in the number of specimens received for Blood Group Antibody investigations particularly in cases of Neo-natal Jaundice and in ante-natal patients.

584. Owing to the rarity of the Rhesus negative gene in Asian people Harmolytic disease of the new born due to Rhesus incompatibility is uncommon here, but that due to ABO incompatibility is relatively much more commonly encountered. The disease is usually less severe than that due to Rhesus incompatibility, but sometimes Exchange Transfusion is required.

585. Specimens for Blood group antibody investigations are received from various parts of Malaya and Borneo and occasionally Sumatra and are always welcome.

CHAPTER TWENTY-FIVE

PHARMACEUTICAL SERVICE

Staff

586. During the first nine months of the year the Pharmaceutical Service was under the supervision of Mr. D. E. Lovett, B.PHARM., F.P.S. Mr. Lovett retired under the Malayanisation Scheme and Mr. S. K. Lingam, M.P.S., DIP.PHARM. was appointed Acting Superintending Pharmaceutical Chemist. The staff position at the end of year is given in Table .

TABLE 151

STAFF OF PHARMACEUTICAL SERVICE

<i>Institution</i>	<i>Pharmaceutical Chemist</i>	<i>Pharmacist</i>	<i>Pupil Pharmacist</i>	<i>Dispensing Assistants</i>
Medical Headquarters	...	1	—	—
Government Medical Store	...	3	—	6
General Hospital	...	5	1	31
Kandang Kerbau Hospital	...	2	—	4
Tan Tock Seng Hospital	...	1	—	5
Woodbridge Hospital	...	1	—	1
Trafalgar Home	1	—	—
Middle Road Hospital	...	1	—	2
Thomson Road Hospital	...	1	—	—
Out-Patients Clinics	...	2	—	5
	2	18	1	54

587. The major Out-patient Clinics and Hospital Dispensaries are managed by Pharmacists. The acute shortage of Pharmacists has hindered the independent development of the Pharmaceutical Service, and most Out-patient Dispensaries are staffed by Hospital Assistants.

588. Out of the total of 54 Dispensing Assistants, 30 are new recruits undergoing training.

Supplies and Cost of Drugs

589. The volume of supplies of drugs to Wards and number of Out-patient prescriptions filled showed an increase in all the main Hospital Dispensaries. These increases are reflected in the figures given below for total expenditure on drugs and chemicals throughout the Ministry. Generally speaking, there has been no real increase in the cost of pharmaceutical supplies, in fact many drugs have fallen in price during recent years, yet despite this the expenditure has risen steadily because of the large number of patients treated in Hospitals.

590. The total expenditure on drugs and pharmaceuticals in all Hospitals, Clinics, Child Health Centres and Out-patient Dispensaries was \$1,958,930, approximately 62 per cent of this total is derived from expenditure on a few major items indicated in Table 152.

TABLE 152

MAIN ITEMS OF EXPENDITURE ON DRUGS AND PHARMACEUTICALS

	Quantity 1958	Cost 1958	Quantity 1959	Cost 1959
		\$		\$
Tetracyclines .. ..	..	204 400	..	170 200
Streptomycin	497,500 grm.	133,700	688,900 grm.	97,500
Procaine Pencillin Injection ..	363,700	70,100	427,500 M.U.	64,000
Penicillin V Tablets ..	1,145,000	44,700	4,435,500	82,500
Chloramphenicol .. ..	..	21,800	..	32,800
Penicillin Injection	112,200 M.U.	21,700	90,000 M.U.	9,400
Sod. Aminosalicylate and Iso- niazid .. ..	..	238,100	..	263,000
Intramuscular Iron Injection ..	77,100 amps.	81,400	82,500 amps.	81,700
Corticosteriods .. ..	..	76,600	..	44,700
Vitamins .. ..	..	51,600	..	34,300
Sulphonamides	2,750 kg.	49,300	4,230 kg.	33,800
Antihistamines .. ..	..	46,000	..	68,300
Tolbutamide Tabs.	776,000 tabs.	38,000	1,800,200 tabs.	35,900
Codeine Phosphate	177 lbs.	36,000	438 lbs.	104,300
Chlorpromazine .. ..	..	30,000	..	40,600
Insulin (Plain, P.Z. and Lente)	18½ m.u.	26,300	21 m.u.	28,600
Alcohol (B.P. and Industrial)	8,950 gallons	17,500	8,100 gallons	15,600
Acetazolamide Tabs. ..	103,500 tablets	16,900	84,400 tablets	8,100
Cod Liver Oil	2,600 gallons	12,000	1,800 gallons	5,800
		1,216,100		1,221,100

591. The total expenditure of \$456,400 on antibiotics during the year represents 23 per cent of the drug bill. This compares favourably with the 1958 figure of 28 per cent. The comparative figures for United Kingdom is about 20 per cent.

592. The prices of some items showed a downward trend and the 1959 cost should have reflected this but for the fact that cost of Codeine Phosphate amounting to \$104,300 is added to the total, even though most of this drug is sold to commercial pharmacists and the proceeds are credited to revenue.

593. The cost of drugs used in the treatment of Tuberculosis showed a slight increase, but this is due to the increase in the number of patients under treatment.

594. There was great increase in prescriptions for Corticosteriods but the cost of this item was reduced considerably by undertaking local manufacture of preparations containing Corticosteriods.

595. Cost of Antihistamine drugs amounted to \$68,000 compared with \$46,000 in 1958. Almost twice as much Antihistamines were consumed in 1959 and it was not possible to lower the cost as almost all the Antihistamines are sold under patent rights and it was not possible to obtain the raw material for manufacturing in Government Medical Store.

596. One would have expected a reduction in the use of Insulin with the introduction of oral-anti-diabetic drugs, e.g. Tolbutamide, but this was not realised. A great number of diabetic patients turn up at Government Clinics to obtain treatment, and as the treatment has to be continued indefinitely, the number of patients continue to increase by addition of new cases to old ones.

597. A large proportion of out-patients receive vitamin preparations in one form or another, and though large quantities were consumed the relative cost of vitamins was kept low by manufacturing all vitamin tablets, injections and vitamin drops in Government Medical Store.

Stores and Laboratories

598. At the Government Medical Store an increase in the work of both the Stores Section and the Pharmaceutical Laboratories is reflected in the following comparative table covering the past 12 years.

TABLE 153

COMPARATIVE TABLE WORK AT GOVERNMENT MEDICAL STORE

<i>Stores Section</i>		<i>Laboratory Section</i>	
Number of orders for supplies to hospitals, clinics, etc. in 1959 ...	8,606	Number of Works Tickets completed by Laboratory	2,346
Total value of drugs chemicals, etc., distributed ...	\$1,958,930	Nett value of materials used in manufacture of pharmaceuticals ...	\$800,163
Total value of surgical equipment, dressings and sundries distributed ...	745,930		
Total ...	\$2,704,860		

TABLE 154

<i>Turnover for past 12 years</i>				<i>Production for past 12 years</i>			
(Total value of stores supplied)				(Net value of material used)			
\$				\$			
1948	...	...	623,881	1948	...	...	47,805
1949	...	...	1,032,564	1949	...	...	92,864
1950	...	...	1,139,701	1950	...	...	107,438
1951	...	...	1,184,485	1951	...	...	87,646
1952	...	...	1,448,831	1952	...	...	176,412
1953	...	..	1,629,474	1953	...	...	196,792
1954	...	...	1,503,867	1954	...	...	249,333
1955	...	...	1,615,707	1955	...	...	269,509
1956	...	...	1,887,264	1956	..	...	325,053
1957	...	...	2,431,202	1957	...	...	469,471
1958	...	...	2,596,793	1958	..	...	579,152
1959	...	...	2,704,860	1959	...	...	800,163

599. The 1959 production value is nearly 5 times that of 1952, when the present premises were first occupied. This is indeed a creditable performance, when it is considered that the increased volume of manufacture was handled without much expansion of Laboratory accommodation or increase in staff. It is hard to estimate accurately the saving effected by undertaking manufacture locally, but it is estimated to be about \$500,000 annually.

600. A comparison is given in Table 155 of the 1959 production figures in the pharmaceutical laboratory with the figures for previous years.

TABLE 155

PRODUCTION IN THE GOVERNMENT PHARMACEUTICAL LABORATORY,
1955-59

	1955	1956	1957	1958	1959
Tablets (millions)	39.4	45.6	56.4	54.9	90.7
Ampoules (Number)	324,400	563,700	440,000	535,600	593,569
Multidose Inj. Vials (Number)	73,900	29,400	19,200	17,000	20,690
Sterile Transfusion Fluids (pint bottles)	18,500	37,500	76,700	74,600	104,061
Eyedrop/Eardrop Vials (Number) .. ..	..	13,600	14,000	44,500	69,040
Tinctures, Infusions, Extracts (Gallons)	1,625	2,250	2,318	3,300	4,800
Emulsions (Gallons)	590	476	490	500	700
Mixtures, Lotions, Liniments (Gallons)	14,700	8,900	8,190	8,950	11,700
Antiseptic Fluids (Gallons) .. ..	..	4,740	7,290	8,300	8,600
Linctus and Syrups (Gallons)	1,260	1,360	2,620	7,700	11,300
Ointments and Creams (lb.)	8,600	7,700	10,800	10,900	20,000
Ointments and Creams in Tubes (Number)	9,500	20,100	52,300	71,450	86,900
Laboratory Reagent Solutions (litres)	880	436	520	640	490
Suppositories and Pessaries (Number)	19,900	18,900	33,900	33,100	63,830

601. The 1959 production figures show a considerable increase in production over that of 1958. The production of tablets increased by 60 per cent and our tableting facilities were fully extended. A total of 104,000 pint bottles of sterile transfusion solution were prepared in 1959, and our average production per working day is 700 bottles. More than twice the number of Suppositories and Pessaries were produced in 1959 as compared with 1958.

602. In spite of the considerably increased production, the expenditure on general maintenance of manufacturing laboratory was only \$5,783 as against \$4,543 in 1958. City services, fuel oil for boiler and other overhead costs amounted to \$14,370 as against \$12,000 in 1958. Staff salaries amounted to \$93,000 as against \$83,000 in 1958. The total cost of running the manufacturing Laboratories represents a 15 per cent surcharge on the cost of raw materials processed. All the products manufactured by the Government Medical Store are tested for sterility in the case of sterile products by the Department of Pathology, and for purity and contents of active ingredients by the Chemistry Department. The Chemistry Department has helped in the elucidation of the contents of proprietary preparations, and in devising formulation for new products.

Tenders and Purchases

603. A number of tenders were issued locally for Hospital Equipment and Furniture as well as Drugs and Chemicals. Simultaneous tenders for the same item were issued by the Crown Agents in London, who were requested to forward the most favourable offers to Singapore for adjudication by the Hospital Tenders Board. Generally the prices of locally manufactured Hospital Furniture and Equipment were competitive in price but the quality of material used and workmanship was not up to specification. Many overseas manufacturers are represented in Singapore, and it was possible to obtain certain bulk chemicals and drugs at a lower price than through Crown Agents. Many of the local tenderers failed to appreciate the need to offer items according to the published specifications, and their offers had to be rejected after testing the material forwarded as sample. This increased the work of this Department and the Department of Chemistry, which handled the

analytical work, considerably. It is hoped that firms will realise the need to tender for quality goods in the future, which would confer mutual advantages to them and the Government. Normally tender invitations are issued quarterly but in the case of supply of Medicinal gases, X-Ray Films and Plaster of Paris, etc., are contracted for a period of one year. Most purchases are met from Unallocated Stores Vote, but a number of items are charged direct to the consumer units. Figures showing purchases for 1958 and 1959 are shown in Table 156.

TABLE 156

UNALLOCATED STORES PURCHASES ACCOUNT

	1958	1959
	\$	\$
(1) Value of Orders placed through Crown Agents	1,841,377	2,215,349
(2) Value of Stores purchased locally ...	760,341	665,414
(3) Value of Stores purchased direct from other countries ...	20,531	37,817

UNALLOCATED STORES RECOVERIES ACCOUNT

	\$	\$
(1) Total cost of Stores billed and adjusted ...	2,507,000	2,631,529
(2) Total Bills Outstanding ...	14,100	31,630
(3) Payments to U. S. Recoveries Accounts:—		
(i) by adjustments ...	2,293,205	2,338,970
(ii) by cash ...	1,772	2,106
(4) Payments to Revenue ...	200,235	274,666
(5) Surcharge on sales to non-Government Institutions ...	4,217	12,150

604. The Imports Section of the Store has provided the Statistics in relation to the work of the past 3 years in Table 157.

TABLE 157

SUMMARY OF WORK OF IMPORTS SECTION, 1957-1959

	1957	1958	1959
Number of Bills of Lading exchanged ...	1,006	775	668
Number of crates and parcels received:—			
(i) per sea ...	5,668	5,103	6,565
(ii) per post, air and rail ...	2,315	1,669	1,647
Number of crates and parcels despatched:—			
(i) per sea ...	52	66	64
(ii) per post, air and rail ...	316	95	123
Number of claims on shippers and suppliers	98	62	48

Stocks in Hand

605. The value of stores in stock at the Government Medical Store at the end of 1959 was \$1,597,162. This represents approximately six months holding of stock. The value of stores written off was \$1,681 which is less than $\frac{1}{2}$ per cent of the turnover. Considering the unstable nature of pharmaceutical preparations and the frequent introduction of new drugs the course of the year, the small value of the write-off is creditable.

CHAPTER TWENTY-SIX

OTHER SPECIAL DEPARTMENTS

PRISONS HOSPITALS

H.M. Prison, Changi

606. The Changi Prison Clinic and Hospital is staffed by a Medical Officer, 3 Hospital Assistants and 3 Prison Orderlies.

607. A regular inspection of the Prison Health and Sanitation was maintained throughout the year.

608. The daily average number of prisoners in the Prison was 659. The total number of Out-patient attendances during the year was 37,016. A total of 374 In-patients were admitted into the Prison Hospital. The number of minor operations performed during the year was 23.

H.M. Prison, Pearl's Hill

609. The Local Prison Clinic and Hospital is staffed by a Medical Officer, 8 Hospital Assistants and Prison Orderlies.

610. Total number of prisoners admitted to Prison during the year was 5,539, the daily average being 815.

611. The Prison Hospital has 100 beds. There were 1,789 admissions to the Hospital. Total Out-patients treated at the Clinic were 32,221. Vaccinations against Small-pox were carried on 5,563 cases. In the Prison Hospital there were 1,443 admissions for Opium Addictions out of a total of 1,789 admissions.

CHANGI PRISON STAFF CLINIC

612. This Clinic is situated at the entrance to the Changi Prison and is for the convenience of Prison Staff and their families and for Government employees resident in this area. The Medical Officer in-charge Changi Prison, assisted by the Medical Staff of the Prison run this Clinic. The Clinic functions daily between 8.30 a.m. to 9.30 a.m. except Sundays and Holidays. During the year, 7,586 patients attended this Clinic.

OPIUM TREATMENT CENTRE

613. During the year the Advisory Committee investigated 1,082 Male Addicts (including 25 Volunteers) and 29 Female Addicts (2 Volunteers). A total of 489 Males (including 36 Volunteers) were admitted to St. John's Island for rehabilitation. By the end of the year, 443, Males had completed their rehabilitation and were discharged (including 35 Volunteers).

OPIUM TREATMENT FOLLOW-UP CLINIC

614. This Clinic was conducted at the Out-patient Department, General Hospital on every Friday afternoon, for the follow-up of patients who have been released from St. John's Island. The number of patients' visits to the Clinic was 710 during the year.

POLICE HOSPITAL

615. The police Training School Clinic and Hospital is for the members of the Police Force.

616. During the year 9,625 Out-patients attended the Clinic and 1,403 recruits were examined. There were 398 patients admitted to the Police Training School Hospital in 1959.

POLICE FAMILIES' CLINIC

617. This Clinic is staffed by 1 Lady Medical Officer, 1 Staff Nurse and a Police Amah. The Lady Medical Officer visits, in the morning the various station branches and in the afternoon, she works at the Main Clinic, Hill Street. During the year, total number of cases seen were 22,926, of which 4,401 were new cases.

DISTRICT NURSING SERVICE

618. The Staff comprises five Staff Nurses. Two of the Staff Nurses are trained in District Nursing, while the others have received in service experience only.

619. Headquarters of the Service remains at the General Hospital, but one branch section was opened at Pegu Road Outdoor Dispensary in March 1959. One Staff Nurse works in that area, using the District Room at Pegu Road Clinic as her base, and attending patients referred from both Pegu Road and General Hospital.

620. Total number of patients received during the year was 175. The number of visits to patients' homes were 9,948.

GOVERNMENT OFFICIALS' CLINIC

Medical Officer i/c., Senior Officials Clinic

621. This Clinic is situated at General Hospital. The Staff consists of 1 Medical Officer, one Staff Nurse, one Office Boy and 2 Attendants. This Clinic provides medical care for Government Senior Officials and their families. During the year, 4,652 new cases and 9,134 repeat cases were treated at this Clinic. Vaccinations and Innoculation totalled 4,091 1,731 Injections and 1,426 Dressings were carried out. Medical Board numbered 82 and recruits for examination 934.

Medical Officer i/c., Junior Officials Clinic

622. This Clinic is situated at General Hospital. The Staff consists of 2 Medical Officers, 1 Staff Nurse, 1 Junior Nurse and 5 Hospital Servants. The total number of cases seen in the Clinic are given below:—

New Cases	...	...	...	7,679
Repeat Cases	...	...	...	19,912
Injections	...	...	...	5,321
Dressings	...	...	...	1,967

PART IV

CITY HEALTH DEPARTMENT

CHAPTER TWENTY-SEVEN

CITY HEALTH DEPARTMENT

INTRODUCTION

Vital Statistics—City Area

TABLE 158

CITY HEALTH DEPARTMENT

		1958	1959	
Mid-Year Population (June)	...	953,500	993,700	
Total births registered	...	47,106	48,694	
Total deaths	...	8,272	8,122	
Excess of births over deaths	...	38,834	40,572	
Birth Rate	...	49.40	49.00	per 1,000 population
Death Rate	...	8.67	8.17	per 1,000 population
Malarial Mortality Rate	...	.002	.007	per 1,000 population
Infantile Mortality Rate	...	45.81	37.17	per 1,000 live births
Neo-natal Death Rate	...	22.42	19.53	per 1,000 live births
Still Birth Rate per 1,000 live and still births	...	16.70	15.35	
Maternal Mortality Rate per 1,000 live births	...	0.91	0.739	

Public Health Inspectors Sections

623. During the year, 1,864 houses and 4,244 huts in kampongs were inspected. Investigations were carried out into 1,848 complaints involving 37,675 visits. Mosquito breeding were detected in 2,810 premises. 5,220 throat swabs were taken for investigations for Diphtheria contacts. 45,065 visits were made to various premises for licensing purposes. 1,344 notices were served, and there were 281 prosecutions with 240 convictions resulting in fines totalling \$9,999.

Cemeteries

Burial in Public Cemeteries	...	5,322
Burial in Private Cemeteries	...	636
Cremations	...	230
Exhumations	...	4,296

Small-pox Outbreak in Kampong Alexandra

624. A minor outbreak of Small-pox occurred in April 1959. The primary case of this outbreak was an eleven-year-old Indian boy who arrived at Penang on the *State of Madras* from Madras on 15th March, 1959. Although this boy was the primary case he was not discovered until nearly a month later, when the secondary case, a Malay female adult was admitted to hospital on 12th April, 1959 from the Kampong Alexandra area. This woman lived a short distance from the house where the primary case had occurred.

625. The principal measures of case-finding and isolation were promptly carried out in the local area followed by contact tracing and quarantine of these contacts. 240 contacts were isolated for 14 days at the Quarantine Station. 11,038 persons were compulsorily vaccinated in the local affected

area. A mass vaccination campaign was carried out. The City Council undertook to vaccinate all the population within the City area. All the Infant Welfare Clinics, Public Dispensaries and Mobile Dispensaries were used as Vaccination Centres.

626. The total number of cases of small-pox was 10 with 2 deaths. The total number of huts visited by the Public Health Inspectors when combing the area for cases of small-pox was 860. The total number of persons vaccinated in the City area was more than 562,558.

Licensing Section

627. A total of 1,659 licences were issued under the Food Shop By-laws with an income of \$77,431.

628. The number of licences issued under the Offensive Trade By-laws was 421 with an income of \$14,542.

Food and Drugs Section

629. With the integration of the Government and City Health Departments, two additional Inspectors were seconded to this Section in November 1959. 1,039 Food and Drugs samples were sent for Chemical and Bacteriological analysis. More than 82,000 lb. of unsound foodstuffs were destroyed. The following events occurred during the year 1959 and are worth mentioning.

Barley Food Poisoning

630. During the first week of September a number of patients were admitted into the General Hospital suffering from food poisoning. 9 of the victims (all children) died. In all, 44 persons were affected. The cause of the food poisoning was the consumption of Pearl Barley. The outbreak, though scattered over the island, was concentrated chiefly in the Queenstown area. Investigations carried out by the Inspectorate of this Section and Public Health Inspectorate revealed the incriminating agent to be Pearl Barley imported in two consignments from Germany, during the later part of August, arriving within a week of each other. The total consignments amounted to 400 bags of 112 lb. each. Further investigations revealed that a portion of this stock of barley was contaminated with parathion which is a highly toxic insecticide and which was prohibited product in the country. It was proved that the contamination did not occur in Singapore. How and where the barley was contaminated was not known. 400 bags had already been distributed throughout Singapore, the Federation and Sarawak. Except for 35½ bags which were reported by the various local purchasers as having been consumed or destroyed, all the 400 bags were traced, surrendered and destroyed. Action by the Ministry of Health in notifying the Governments of the Federation and Sarawak prevented outbreaks in those countries.

Lead Poisoning

631. A case of lead poisoning was reported during the month of August. Investigations carried out revealed that a Chinese Sinseh had treated the patient with "Ban Chuan" pills which were coated with "Chu Sa" powder, which was found to contain 4,800 parts per million of lead. Legal action taken against the Sinseh resulted in his being convicted.

Cases of Anæmia and Cyanosis in Infants

632. During November a number of infants were admitted into General Hospital as a result of home treatment with Chinese Fever Drugs, some of which contained a dangerously high amount of phenacetin. The Government

Toxicologist reported that the symptoms appeared to be consistent with over-dosage of phenacetin. Our investigations showed that these powders "Chin Foong Sun" and "Pau Ying Tang" manufactured locally were the cause. 861 cartons each containing 10 powders were sealed at the manufacturers premises. In the resultant prosecution, the Court ordered the forfeiture of the sealed stock of the Fever Powders and destruction by the Department.

Staff Dispensaries

633. Medical attention including house visits is provided to all categories of employees. The number of monthly paid staff eligible for medical care is about 3,500 and the number of daily paid workers is about 12,000. An average of 11,553 cases are treated monthly at the three Staff Dispensaries. During the small-pox epidemic in April, the staff vaccinated more than 15,000 Council staff and their dependents. As a result of purchasing of drugs through the Central Medical Store, from a budget provision of \$50,000 for drugs and dressings for 1959, a savings of nearly \$24,665 was effected.

City Analyst Laboratory

634. A total of 31,084 samples from City Council Departments and commercial firms were received for analysis during the year, an increase of 2.6 per cent over the number examined in 1958. The Laboratory assisted in the investigation and determination of the Chemical Parathion in the Barley Poisoning incident.

Bacteriological Laboratory

635. Early in November, an outbreak of typhoid fever occurred in three families who attended a picnic and had food from hawkers in the Changi area. Several members of the three families were infected with typhoid. On examination of the hawkers in the locality, one of them who had supplied iced drinks to the family was found to be excreting typhoid bacillus in his faeces. Typhoid bacillus isolated from the blood or faeces of these patients were found to be of the same phage-typed as those excreted by the hawker, i.e. phage type 'A'.

636. A total of 49,962 public health specimens and 68,889 specimens of water were examined.

637. 3,481 rats sampled from various parts of the town were dissected and none showed any signs of plague infection. Results of the water in the taps are satisfactory throughout the year.

Anti-Mosquito Department

638. With the implementation of the Local Government Elections Ordinance, 1957 the City boundary was re-arranged. Parts of Katong, Serangoon and Thomson Road areas were placed under the District Councils and the City acquired Pasir Panjang, Ulu Pandan and Bukit Timah area.

639. Permanent anti-malarial drainage was extended by the construction of 923 yards of concrete drains and 243 yards of sub-soil pipe lines. In addition, 751 yards of old drains were reconstructed. The total cost of anti-mosquito control was \$1,007,822. The cost per head of population was \$1.01. The death rate from malaria was .007 per thousand. 28 cases of malaria were reported within the City Area but on investigation they proved to be imported cases.

Kampong Sanitation

640. Extensive kampong sanitation works to improve drainage and disposal of refuse were carried out in kampongs at Boon Teck Road, Lorong Koo Chye, Lorong 23, Geylang, Kampong Amber, Kampong Chia Heng, Kampong Potong Pasir, Kampong Bukit Permei, Kampong Bukit Teresa, Kampong Wishart, Kampong Radin Mas and Kampong Fern Hill.

Middleton Hospital

641. This is reported on a separate chapter under Infectious Diseases.

Maternal and Child Welfare Department

642. The department continued to carry out all aspects of Maternal and Child Welfare work in spite of severe shortage of staff. Two new clinics, one at Stirling Road and the other at Kreta Ayer, were ready for functioning.

Midwifery Sessions

643. The number of domiciliary aftercare and total visits to homes have increased considerably.

Small-pox Vaccination

644. During the mass vaccination campaign against small-pox, all the clinics were utilized and a total of 288,873 vaccinations were done during the period 14th April, 1959 to 10th May, 1959.

Immunisation against Diphtheria

645. Under 1 year—a total of 7,310 completed the two injections and 8,669 had the first injection.

646. Over 1 year—a total of 6,685 children completed the course and 7,336 had the first injection.

647. Over 10 years—a total of 428 completed the course and 2,412 children were given booster doses.

648. Immunisation against Diphtheria and Whooping Cough—1,182 completed the course and 2,538 received partial immunisation.

649. Triple Antigen—Immunisation against Diphtheria with Triple Antigen—3,070 children completed the course.

650. B.C.G. Vaccination—the number of babies under 1 month vaccinated—5,936.

651. Number of babies returned for Mantoux test—3,917.

652. Attendances at Creches—18,908.

653. Supervision of Midwives in Private Practice by Supervisor of Midwives—the number of inspections of Private Midwives bags—1,170.

654. District visits to check on work of Private Midwives—1,842.

655. Investigation of Puerperal Fever cases reported—116.

656. Investigation of Tetanus Neo-natorum cases reported—4.

657. Health Visitors—the total number of visits to homes was 77,375.

658. Sick Mothers—the total number of sick mothers treated was 45,687.

659. Ante-natal consultations in Clinics—Total attendances of ante-natal mothers—25,553.

660. Blood for kahn tests—2,505.

661. Number of positive in percentage—2.35 per cent.

662. Confinements in City Area by City Council Midwives—1,295.

Abattoirs

663. During the year, 530,717 animals were slaughtered in the City Abattoirs as follows:—

Swine ...	...	...	436,454
Oxen ...	...	...	5,868
Buffaloes	...	...	3,379
Horses	...	...	8
Sheep ...	...	...	81,717
Goats ...	...	...	3,293

664. Carcasses condemned as unfit for human consumption:—

Swine	...	...	...	40
Oxen	...	...	...	5
Buffaloes	...	...	...	4
Sheep	...	...	...	25
Goat	...	...	...	1

				\$	c.
Total receipts for the year 1959	...	...	...	1,035,199	25
Less refund of slaughter fees	...	...	...	1,366	00
Total net receipt for the year 1959	...	...	...	1,033,833	25

Public and Mobile Dispensaries

665. The number of Public Dispensaries built was 6 but only 4 were functioning.

666. There were three Mobile Dispensaries.

667. Number of attendances at the Public and Mobile Dispensaries:—

<i>Name of Dispensary</i>			<i>Total</i>	
New Bridge Road	...	...	81,246	
Kee Seng Street	...	...	35,357	
Prince Philip Avenue	...	...	41,275	
Desker Road	...	...	47,403	
Aljunied Road	...	...	62,648	
Upper Serangoon Road	...	...	28,296	
Stirling Road	...	...	19,867	
Dunearn Road	...	...	38,123	
Rochore House	...	...	—	(not functioning)
Kreta Ayer Street	...	...	—	(not functioning)
Mobile 'A'	...	...	17,883	
Mobile 'B'	...	...	9,413	
Mobile 'C'	...	...	5,791	
Total Attendances			387,302	

668. Each attendance is charged a fee of 50 cents.

669. Due to shortage of Doctors, the 3 Mobile Dispensaries could not function fully.

Central Medical Store

670. In 1958, with the expansion of Health Services due to the Mayor's programme of establishing new Public Dispensaries, Creches and Clinics, the need for centralised purchasing and a proper store for the storage of drugs and equipment became apparent. The establishment of a Central Medical Store would facilitate the efficient distribution of drugs, medicines, etc. as well as to effect economy and the control in the use of drugs. With the above in view, the construction of a new building to house the Central Medical Store was envisaged but due to the shortage of funds, the Medical Superintendent's quarters at No. 2 Mandalay Road were converted into a Central Medical Store at a cost of about \$10,000.

671. Equipment for the manufacture of mixtures, lotions, etc. was ordered and installed in January 1959 and since then, all the mixtures, lotions, etc. required by all the City Council Dispensaries, Clinics, etc. have been manufactured at this Central Medical Store. A qualified Pharmacist was appointed in September 1959 and this officer has been in complete charge of the planning and running of the store. The store purchasing account of \$300,000 for drugs and dressings and \$10,000 for medical and surgical equipment was set up for this Central Medical Store. The following statement of purchases and issues for the year, 1959 is as follows:—

		\$	c.
<i>Drugs and Dressing—Code 52/4100/0000:</i>			
Total purchases for the year, 1959 amounted to	...	176,975	60
Total issues for the year, 1959 amounted to	...	163,101	25
<i>Medical and Surgical Equipment—Code 52/4200/0000:</i>			
Total purchases for the year, 1959 amounted to	...	5,644	60
Total issues for the year, 1959 amounted to	...	4,768	46

672. In addition a large quantity non-yearly recurrent equipment for the Dispensaries, Creches and Clinics were purchased through the Central Medical Store and treated as direct purchases by the indenting units. The supplies of miscellaneous items and domestic requisites such as vim, brushes, brooms, etc. and toilet requisite to the dispensaries have been taken over by the Central Medical Store and these supplies normally were delivered together with the drugs.

Accounting system of Dispensaries and Clinics

673. The lack of proper accounting system in the various clinics and dispensaries of the City Council was commented upon by the City Auditor in 1958. When the Pharmacist was recruited in September 1958 amongst other duties, he was requested by the City Health Officer to introduce a uniform accounting system in all the clinics and dispensaries to the satisfaction of the Audit Department. By the early part of 1959 this accounting system has been introduced and this has been found satisfactory by the Audit Department, when they audited the Public Dispensary in November 1959.

674. Expenditure on drugs and dressing, etc. by the various dispensaries and clinics are illustrated below:—

		<i>Approved Budget for 1959</i>	<i>Amount Expended</i>	<i>Savings</i>
		\$	\$ c.	\$ c.
Public Dispensaries	...	93,000	78,176 58	14,823 42
Staff Dispensaries	...	50,000	25,334 57	24,665 43
Mobile Dispensaries	...	36,000	9,984 77	26,015 23
Clinics (M. & C. W.)	...	50,000	39,675 78	10,324 22

APPENDICES

APPENDIX I
FINANCIAL STATEMENT FOR THE YEAR 1959

<i>Receipts</i>		<i>Expenditure</i>	
	\$ c.		\$ c.
Licence Fees	...	Personal Emoluments:	
	...	General	2,234,249 55
Health Branch (Quarantine and other charges)	...	Health Branch	1,783,810 79
	...	Hospitals and Dispensaries	14,868,069 75
Medical Stores Sales	271,143 10		18,886,130 09
Miscellaneous Receipts	113,006 43	Annually Recurrent Expenditure:	
	...	General	547,278 38
Hospitals Board (Fees, etc.)	1,345,479 94	Health Branch	767,143 73
	...	Hospitals and Dispensaries	8,904,649 26
Balance of cost borne by public revenue	30,321,121 72		10,219,071 37
		Special Expenditure:	
		General	358,063 84
		Health Branch	18,186 23
		Hospitals and Dispensaries	303,211 86
			679,461 93
		Development and Capital Expenditure	2,483,780 75
	<u>32,268,444 14</u>		<u>32,268,444 14</u>

APPENDIX II

IN-PATIENTS ALL HOSPITALS FOR THE YEAR 1959

The following table shows the hospitals maintained by the Medical Department, Singapore, the daily average number of patients in each, the number of patients admitted during the year, the total number of patients treated, the number of deaths and the death rate per hundred treated. (The Quarantine Hospital and Leper Settlement are not included).

Hospitals	Average No. of patients	Admissions during the year	CASES TREATED DURING THE YEAR			Deaths	Mortality per cent
			Male	Female	Total		
General Hospital	1,039.84	39,918	26,383	14,541	40,924	2,692	6.58
T.T.S. Hospital (T.B. and General)	1,054.70	3,362	3,258	1,146	4,404	327	7.43
K.K.M. Hospital (Maternity and Gynaecology)	320.00	44,436	..	44,736	44,736	65	0.14
Police Headquarters, Thomson Road	4.84	398	403	..	403	..	..
Government Prisons, Outram Road	111.87	1,789	1,838	..	1,838	4	0.21
Government Prisons, Changi	15.00	374	395	..	395	1	0.25
Woodbridge Hospital	1,670.53	2,043	2,178	1,508	3,686	47	1.28
St. Andrew's Orthopaedic Hospital	106.24	144	118	134	242	..	..
Social Hygiene Hospital	37.00	1,349	304	1,081	1,385	1	0.02
Middleton Hospital	167.00	3,451	2,160	1,481	3,641	52	1.43
Opium Treatment Centre at St. Johns Island	8.00	448	449	..	449	..	..
Thomson Road Hospital	0.52	16	16	..	16	1	6.25
Total including 220 transfers .. .. .	..	97,728	37,502	64,627	102,129	3,190	3.12

N.B.—Total cases treated in 1958: 91,951.

APPENDIX III

OUT-PATIENTS

Total Attendances at the Out-Patient Clinics during the year 1959, were distributed as follows:—

Hospitals	New Cases	Repetitions	Total Attendances
General Hospital	405,701	785,327	1,191,028
In addition M.O. i/c Officials	11,712	..	11,712
In addition Dressings and Injections .. .. .	..	311,538	311,538
K.K.M. Hospital { Anti-Natal and Post-Natal	71,398	104,621	176,019
{ O.P.D. Women and Children	25,821	71,627	97,448
T.T.S. Hospital { General	1,437	2,838	4,275
{ Rotary	2,685	337,866	380,551
Social Hygiene Hospital	37,658	180,612	218,270
Police Depot Thomson Road }	3,021	6,604	9,625
Police Depot, Families }			
Woodbridge Hospital	996	4,156	5,152
Thomson Road Hospital	27	..	27
Total	560,456	1,845,189	2,405,645

APPENDIX III—*continued*

STATIC, TRAVELLING AND FLOATING DISPENSARIES, 1959

			New Cases	Repetitions	Total Attendances
Paya Lebar O.D.D. ..	..	..	24,520	47,389	71,909
Bukit Timah Clinic ..	..	..	9,731	2,394	12,125
Bukit Panjang Clinic ..	..	..	27,482	59,334	86,816
Holland Road Clinic ..	..	..	2,908	3,499	6,407
Thomson Road Clinic ..	..	..	11,937	26,806	38,743
Pasir Panjang Clinic ..	..	..	7,411	25,370	32,781
Kallang Clinic ..	..	..	43,772	77,064	120,836
Kampong Batak Clinic ..	..	..	2,015	2,922	4,937
Changi Point Clinic ..	..	..	1,575	5,181	6,756
Travelling Dispensaries 1, 2, 3 and 4 ..	..	..	76,357	113,714	190,071
Gulega Road Clinic ..	..	..	2,238	4,272	6,510
Pulau Brani Clinic ..	..	..	662	10,217	10,879
Pulau Tekong Clinic ..	..	..	1,653	6,172	7,825
Pegu Road O.D.D. ..	..	..	36,810	58,233	95,043
Police Families' Clinic, Hill Street ..	..	..	4,401	18,525	22,926
District Nursing Service ..	..	..	175	702	877
Floating Dispensary ..	..	..	..	..	5,883
Total ..			253,647	461,794	721,324

Excluding the Prisons, St. John's Island, Maternity and Child Welfare Clinics.

HOSPITALS, STATE OF SINGAPORE, IN-PATIENTS
RETURN OF DISEASES AND DEATHS FOR THE YEAR 1959

According to the Intermediate List adapted for use in Singapore, of the 1948 (6th) International List of Diseases and Causes of Death

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1958	YEARLY TOTAL		†Total cases treated	‡Remain- ing at end of 1959
				Admissions	Deaths		
		I.— <i>Infective and Parasitic Diseases</i>					
A 1	001-008	Tuberculosis of respiratory system ..	937	3,321	266	4,258	899
A 2	010	Tuberculosis of meninges and central nervous system ..	10	100	20	110	15
A 3	011	Tuberculosis of intestines, peritoneum and mesenteric glands ..	..	40	5	40	1
A 4	012.0, 013.0 012, 013 except 012.0, 013.0	Tuberculosis of bones and joints:— Tuberculosis of the vertebral column ..	79 70	315 261	1 ..	394 331	90 66
A 5	014 015 016 017 018 019	Tuberculosis, all other forms:— Tuberculosis of skin and subcutaneous cellular tissue .. Tuberculosis of lymphatic system .. Tuberculosis of genito-urinary system .. Tuberculosis of adrenal glands .. Tuberculosis of other organs .. Disseminated tuberculosis ..	.. .. 1 1 .. 3 11	1 69 51 2 17 40	.. .. .. .. .. .. 11	1 70 52 2 20 51	.. 4 2 .. 1 1
		Carried forward ..	1,112	4,217	303	5,329	1,079

The headings are taken from the Intermediate List of 150 Causes for Tabulation of Morbidity and Mortality as published in the "Manual of the International Statistical Classification of Diseases, Injuries and Causes of Death" (Sixth Revision of the International Lists of Diseases and Causes of Death, 1948).

Reference should be made to the Detailed List of the Diseases published on pages 45 to 321 of Volume I of the above Manual whenever there is any doubt about the entry in the list.

* *i.e.* the year previous to that for which the return is made.
† "Total cases treated" will, of course, include those remaining in Hospital at the end of the previous year.
‡ The figures in this column to be carried on to the next year's Return.

APPENDIX IV—continued

RETURN OF DISEASES AND DEATHS FOR THE YEAR 1959—continued

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1958	YEARLY TOTAL		†Total cases treated	†Remain- ing at end of 1959
				Admissions	Deaths		
		<i>Brought forward</i> ..	1,112	4,217	303	5,329	1,079
		<i>I.—Infective and Parasitic Diseases</i> <i>—contd.</i>					
A 6	020	Congenital syphilis ..	..	24	..	24	..
A 7	021.0, 021.1	Early Syphilis:—	..	2	..	2	..
(a)	021.2	Primary syphilis ..	..	8	..	8	..
(b)	021.3	Secondary syphilis ..	..	79	..	79	..
(c)		Early syphilis, relapse following treatment ..	..	47	..	48	..
(d)	021.4	Early syphilis (unspecified stage) ..	1	23	..	24	..
A 8	024	Tabes dorsalis ..	1	20	1	21	1
A 9	025	General paralysis of insane ..	1	17	2	17	..
A 10		All other syphilis:—	..	62	5	62	..
(a)	022	Aneurysm of aorta ..	..	29	2	31	2
(b)	023	Other cardiovascular syphilis ..	..	8	..	8	1
(c)	026	Other syphilis of central nervous system ..	2	143	..	143	..
(d)	027	Other forms of late syphilis ..	..	25	..	25	..
(e)	028	Latent syphilis ..	..	3	..	3	..
(f)	029	Syphilis, unqualified ..	..	1	..	1	..
A 11		Gonococcal infections:—	..	9	..	11	..
(a)	030	Acute or unspecified gonorrhœa ..	..	..	..	3	..
(b)	031	Chronic gonococcal infection of genito-urinary system ..	..	..	..	1	..
(c)	032	Gonococcal infection of joint ..	2	..	..	11	..
(d)	033	Gonococcal infection of eye ..	3	..	..	3	..
(e)	034-035	Gonococcal infection of other sites ..	..	..	..	..	..
		<i>Carried forward</i> ..	1,122	4,717	313	5,839	1,083

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1958	YEARLY TOTAL		†Total cases treated	†Remain- ing at end of 1959
				Admissions	Deaths		
		<i>Brought forward</i> ..	1,122	4,717	313	5,839	1,083
		<i>I.—Infective and Parasitic Diseases</i> <i>—contd.</i>					
A 12	040	Typhoid fever ..	9	258	10	267	18
A 13		Paratyphoid fever and other Salmonella infections:—					
	041	Paratyphoid fever A, B or C ..	..	..	..	..	..
(a)	042	Other Salmonella infections ..	..	2	..	2	..
(b)	043	Cholera ..	..	..	..	..	..
A 14	044	Brucellosis (undulant fever) ..	..	..	..	..	..
A 15		Dysentery, all forms:—					
A 16	045	Bacillary dysentery ..	..	69	4	69	6
(a)	046	Amoebiasis ..	7	330	8	337	12
(b)		Other protozoal and unspecified forms of dysentery ..	..	86	..	86	5
(c)	047-048	Scarlet fever ..	..	1	..	1	..
A 17	050	Streptococcal sore throat ..	..	1	..	1	..
A 18	051	Erysipelas ..	..	6	..	6	..
A 19	052	Septicæmia and pyæmia ..	..	29	20	29	..
A 20	053	Diphtheria ..	30	1,059	28	1,089	40
A 21	055	Whooping Cough ..	..	56	2	56	17
A 22	056	Meningococcal infections ..	..	4	1	4	2
A 23	057	Plague:—					
A 24	058	Bubonic Plague ..	..	..	..	..	..
(a)	058.0	Pneumonic Plague ..	..	..	..	..	..
(b)	058.1	Other Plague ..	..	..	..	..	..
(c)	058.2	Leprosy ..	12	39	..	51	5
A 25	060	<i>Carried forward</i> ..	1,180	6,657	386	7,837	1,188

APPENDIX IV—continued

RETURN OF DISEASES AND DEATHS FOR THE YEAR 1959—continued

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1958	YEARLY TOTAL		†Total cases treated	†Remain- ing at end of 1959
				Admissions	Deaths		
		<i>Brought forward</i> ..	1,180	6,657	386	7,837	1,188
		<i>I.—Infective and Parasitic Diseases</i> <i>—contd.</i>					
		Tetanus:—					
A 26	061	Tetanus of the new-born	..	11	8	11	2
(a)		Tetanus, other forms ..	1	87	38	88	..
(b)							
A 27	062	Anthrax ..	..	..	..	..	..
A 28	080	Acute Poliomyelitis ..	146	72	3	218	52
A 29	082	Acute infectious encephalitis ..	..	15	4	15	..
A 30	081, 083	Late effects of acute poliomyelitis and acute infectious encephalitis ..	74	78	..	152	6
A 31	084	Small-pox ..	..	10	2	10	6
A 32	085	Measles ..	1	177	6	178	..
A 33	091	Yellow fever ..	..	..	..	..	..
A 34	092	Infectious hepatitis ..	9	585	19	594	13
A 35	094	Rabies ..	..	..	..	..	..
A 36		Typhus and other rickettsial diseases:—					
(a)	100	Louse-borne epidemic typhus ..	..	..	..	..	..
(b)	101	Flea-borne epidemic typhus (murine) ..	..	3	..	3	..
(c)	104	Tick-borne epidemic typhus ..	..	..	..	..	..
(d)	105	Mite-borne typhus ..	..	2	..	2	..
(e)	102-103 } 106-108 }	Other and unspecified typhus ..	..	7	..	7	..
		<i>Carried forward</i> ..	1,411	7,704	466	9,115	1,267

RETURN OF DISEASES AND DEATHS FOR THE YEAR 1959—continued

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Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1958	YEARLY TOTAL		†Total cases treated	‡Remain- ing at end of 1959
				Admissions	Deaths		
		<i>Brought forward</i> ..	1,411	7,704	466	9,115	1,267
		<i>I.—Infective and Parasitic Diseases</i> <i>—contd.</i>					
		Malaria:—					
A 37	(a) 110	Vivax malaria (benign tertian) ..	..	33	..	33	..
	(b) 111	Malariae malaria (Quartan) ..	..	2	..	2	..
	(c) 112	Falciparum malaria (malignant tertian) ..	..	30	4	30	..
	(d) 114	Mixed malaria infections ..	..	2	..	2	..
	(e) 115	Blackwater fever ..	..	2	..	2	..
	(f) 113, 116 117	Other and unspecified forms of malaria ..	1	20	..	21	..
		Schistosomiasis:—					
A 38	(a) 123.0	Schistosomiasis vesical (S. haematobium) ..	..	..	..	..	..
	(b) 123.1	Schistosomiasis intestinal (S. Mansonii) ..	..	2	..	2	..
	(c) 123.2	Schistosomiasis Pulmonary (S. japonicum) ..	..	..	..	..	..
	(d) 123.3	Other and unspecified Schistosomiasis ..	..	1	1	1	..
A 39	125	Hydatid disease ..	..	..	..	..	..
A 40	127	Filariasis ..	..	22	..	22	..
A 41	129	Ankylostomiasis ..	..	87	..	87	1
		Other diseases due to helminths:—					
A 42	(a) 124	Other trematode infestation ..	..	2	..	2	..
	(b) 126	Tape worm (infestation) and other cestode infestation ..	..	6	..	6	..
		<i>Carried forward</i> ..	1,412	7,913	471	9,325	1,268

APPENDIX IV—continued

RETURN OF DISEASES AND DEATHS FOR THE YEAR 1959—continued

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1958	YEARLY TOTAL		†Total cases treated	†Remain- ing at end of 1959
				Admissions	Deaths		
A 42		<i>Brought forward</i> ..	1,412	7,913	471	9,325	1,268
		<i>I.—Infective and Parasitic Diseases</i> <i>—contd.</i>					
(c)	128	Trichiniasis ..	..	2	..	2	..
(d)	130.0	Ascariasis ..	1	76	..	77	2
(e)	130.1–130.3	Other diseases due to helminths ..	..	52	1	52	2
A 43		All other diseases classified as infective and parasitic:—					
(a)	036	Chancroid ..	..	2	..	2	1
(b)	037	Lymphogranuloma Venereum ..	..	2	..	2	..
(c)	038	Granuloma inguinale, venereal ..	..	1	..	1	..
(d)	039	Other and unspecified venereal diseases ..	..	..	..	..	..
(e)	049	Food poisoning (infection and intoxication) ..	..	113	..	113	..
(f)	059	Tularæmia ..	..	..	..	..	..
(g)	063	Gas Gangrene ..	..	..	..	..	..
(h)	064.2	Glanders ..	..	..	..	..	..
(i)	064.3	Melioidosis ..	..	..	..	..	..
(j)	064.0, 064.1 } 064.4 }	Other bacterial diseases ..	..	1	..	1	..
(k)	070	Vincent's infection ..	..	..	..	..	..
(l)	071	Relapsing fever ..	..	..	..	..	..
(m)	072	Leptospirosis icterohæmorrhagica (Weil's disease) ..	1	19	2	20	1
		<i>Carried forward</i> ..	1,414	8,181	474	9,595	1,274

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1958	YEARLY TOTAL		†Total cases treated	†Remain- ing at end of 1959
				Admissions	Deaths		
		<i>Brought forward</i> ..	1,414	8,181	474	9,595	1,274
		<i>I.—Infective and Parasitic Diseases</i> <i>—contd.</i>					
A 43	073	Yaws ..	1	1	..	2	..
(n)	086	Rubella (German measles) ..	..	9	..	9	..
(o)	087	Chicken-pox ..	..	1,004	..	1,004	33
(p)	088	Herpes Zoster ..	1	12	..	13	..
(q)	089	Mumps ..	..	74	..	74	..
(r)	090	Dengue ..	1	32	..	33	..
(s)	093	Glandular fever ..	..	7	..	7	..
(t)	095	Trachoma ..	..	10	..	10	..
(u)	096.7	Sandfly fever ..	..	..	..	..	..
(v)	120	Leishmaniasis ..	..	1	..	1	..
(w)	121.0	Trypanosomiasis gambiensis ..	..	..	..	..	..
(x)	121.0	Trypanosomiasis rhodesiensis ..	..	..	..	..	..
(y)	121	Other and unspecified trypanosomiasis ..	..	..	..	..	..
(z)	131	Dermatophytosis ..	..	2	..	2	..
(A)	132	Actinomycosis ..	..	1	..	1	..
(B)	133, 134	Other fungus infections ..	..	40	1	40	..
(C)	135	Scabies ..	..	40	..	40	..
(D)	054, 074	All other diseases classified as infective and parasitic ..	..	18	..	18	..
(E)	096.1-096.6 096.8, 096.9 122 136-138						
		<i>Carried forward</i> ..	1,417	9,432	475	10,849	1,307

APPENDIX IV—continued

RETURN OF DISEASES AND DEATHS FOR THE YEAR 1959—continued

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1958	YEARLY TOTAL		†Total cases treated	†Remain- ing at end of 1959
				Admissions	Deaths		
		<i>Brought forward</i> ..	1,417	9,432	475	10,849	1,307
		II.— <i>Neoplasms</i>					
A 44	140-148	Malignant neoplasm of buccal cavity and pharynx ..	7	159	34	166	9
A 45	150	Malignant neoplasm of œsophagus ..	6	173	47	179	9
A 46	151	Malignant neoplasm of stomach ..	8	270	77	278	10
A 47		Malignant neoplasm of intestine except rectum:—					
(a)	152	Malignant neoplasm of small intestine, including duodenum ..	..	4	3	4	1
(b)	153	Malignant neoplasm of large intestine, except rectum ..	6	43	12	49	6
A 48	154	Malignant neoplasm of rectum ..	1	63	14	64	5
A 49	161	Malignant neoplasm of larynx ..	4	39	10	43	..
A 50	162-163	Malignant neoplasm of trachea, and of bronchus and lung not specified as secondary ..	8	243	62	251	12
A 51	170	Malignant neoplasm of breast ..	2	55	4	57	3
A 52	171	Malignant neoplasm of cervix uteri ..	2	319	2	321	..
A 53	172-174	Malignant neoplasm of other and unspecified parts of uterus ..	..	11	2	11	..
A 54	177	Malignant neoplasm of prostate ..	2	10	4	12	..
A 55	190-191	Malignant neoplasm of skin ..	..	31	3	31	1
A 56	196-197	Malignant neoplasm of bone and connective tissue ..	2	31	5	33	4
		<i>Carried forward</i> ..	1,465	10,883	754	12,348	1,367

RETURN OF DISEASES AND DEATHS FOR THE YEAR 1959—continued

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Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1958	YEARLY TOTAL		†Total cases treated	‡Remain- ing at end of 1959
				Admissions	Deaths		
		<i>Brought forward</i> ..	1,465	10,883	754	12,348	1,367
		II.— <i>Neoplasms—contd.</i>					
		Malignant neoplasm of all other and un- specified sites:—					
A 57		Malignant neoplasm of liver ..	5	167	68	172	5
(a)	155-156						
(b)	157	Malignant neoplasm of pancreas ..	..	18	4	18	..
(c)	158	Malignant neoplasm of peritoneum ..	..	7	2	7	..
(d)	159	Malignant neoplasm of unspecified di- gestive organs ..	..	10	..	10	..
(e)	175-176	Malignant neoplasm of other and un- specified female genital organs ..	..	8	1	8	..
(f)	178-179	Malignant neoplasm of other and un- specified male genital organs ..	1	15	1	16	2
(g)	180-181	Malignant neoplasm of kidney, bladder and other urinary organs ..	1	51	15	52	1
(h)	160 164-165 192-195 198-199 204	Malignant neoplasm of all other and unspecified sites ..	4	129	14	133	10
A 58		Leukæmia and Aleukæmia ..	6	98	28	104	6
A 59		Lymphosarcoma and other neoplasms of lymphatic and hæmatopoietic system:—					
(a)	200	Lymphosarcoma and reticulosarcoma	1	17	8	18	1
(b)	201	Hodgkin's disease ..	1	16	2	17	..
		<i>Carried forward</i> ..	1,484	11,419	897	12,903	1,392

APPENDIX IV—continued

RETURN OF DISEASES AND DEATHS FOR THE YEAR 1959—continued

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1958	YEARLY TOTAL		†Total cases treated	‡Remain- ing at end of 1959
				Admissions	Deaths		
		<i>Brought forward</i> ..	1,484	11,419	897	12,903	1,392
		II.— <i>Neoplasms—contd.</i>					
A 59	(c)	Other neoplasm of lymphatic and hæ- matopoietic system ..	..	9	1	9	..
A 60		Benign neoplasms and neoplasms of un- specified nature:—					
	(a)	Benign neoplasm of buccal cavity, pha- rynix and digestive system ..	..	55	1	55	..
	(b)	Benign neoplasm of female genital organs ..	9	313	..	322	..
	(c)	Benign neoplasm of male genital organs ..	..	6	..	6	1
	(d)	Benign neoplasm of other and un- specified organs and tissue ..	4	340	1	344	6
	(e)	Neoplasm of unspecified nature of di- gestive organs ..	..	2	..	2	..
	(f)	Neoplasm of unspecified nature of other female genital organs ..	..	1	..	1	..
	(g)	Neoplasm of unspecified nature of other unspecified organs ..	14	107	26	121	6
		<i>Carried forward</i> ..	1,511	12,252	926	13,763	1,405

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1958	YEARLY TOTAL		†Total cases treated	‡Remain- ing at end of 1959
				Admissions	Deaths		
		<i>Brought forward</i> ..	1,511	12,252	926	13,763	1,405
		III.— <i>Allergic, Endocrine System, Metabolic and Nutritional Diseases</i>					
		IV.— <i>Diseases of the Blood and Blood-Forming Organs</i>					
A 61	250, 251	Nontoxic goitre ..	1	125	..	126	5
A 62	252	Thyrototoxicosis with or without goitre ..	5	110	6	115	7
A 63	260	Diabetes mellitus ..	15	360	38	375	12
A 64	280 281 282 283-284 285 286.0 286.5 286.1-286.4 286.6	Avitaminosis and other deficiency states:— Beri-Beri .. Pellagra .. Scurvy .. Rickets .. Osteomalacia .. Steatorrhœa and sprue .. Malnutrition-unqualified .. Other avitaminoses and nutritional deficiency states ..	1 9 ..	58 .. 13 21 .. 2 119 31	11 1 23 ..	59 .. 13 21 .. 2 128 31	.. .. .. 1 8 1
		<i>Carried forward</i> ..	1,542	13,091	1,005	14,633	1,439

APPENDIX IV—continued

RETURN OF DISEASES AND DEATHS FOR THE YEAR 1959—continued

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1958	YEARLY TOTAL		†Total cases treated	‡Remain- ing at end of 1959
				Admissions	Deaths		
		<i>Brought forward</i> ..	1,542	13,091	1,005	14,633	1,439
A 65	(a) 290	III.— <i>Allergic, Endocrine System Metabolic and Nutritional Diseases</i>					
	(b) 291	IV.— <i>Diseases of the Blood and Blood-Forming Organs—contd.</i>					
	(c) 292-293	Anæmias:—					
		Pernicious and other hyperchromic anæmias ..		14	..	14	..
		Iron deficiency anæmias (hypochromic) ..		70	..	70	..
		Other specified and unspecified anæmias ..	13	202	24	215	11
A 66		Allergic disorders; all other endocrine metabolic and blood diseases:—					
	(a) 241	Asthma ..	13	1,041	15	1,054	14
	(b) 240	Angioneurotic œdema, urticaria and other allergic disorders ..	2	208	..	210	2
	(c) 242-245	Myxœdema and cretinism ..	2	28	..	30	..
	(d) 253	Other diseases of thyroid gland ..		..	..	..	..
	(e) 254	Disorders of pancreatic internal secretion other than diabetes mellitus ..		21	..	21	..
	(f) 270	Diseases of parathyroid gland ..		2	..	2	..
	(g) 271	Diseases of pituitary gland ..		9	1	9	..
	(h) 272	Diseases of thymus gland ..		..	..	..	..
	(i) 273	Diseases of adrenal gland ..		5	2	5	..
	(j) 274	Other diseases of endocrine glands ..	1	5	..	6	..
	(k) 275-277	Gout ..	1	21	..	22	1
	(l) 288	Other metabolic diseases ..		13	1	13	..
	(m) 287, 289	Polycythemia ..		..	..	..	..
	294	<i>Carried forward</i> ..	1,574	14,730	1,048	16,304	1,467

APPENDIX IV—continued
RETURN OF DISEASES AND DEATHS FOR THE YEAR 1959—continued

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1958	YEARLY TOTAL		†Total cases treated	‡Remain- ing at end of 1959
				Admissions	Deaths		
		<i>Brought forward</i> ..	1,574	14,730	1,048	16,304	1,467
		IV.— <i>Diseases of the Blood and Blood- Forming Organs—contd.</i>					
A 66	(n)	Hæmophilia ..	3	13	..	16	1
	(o)	Purpura and other hæmorrhagic con- ditions ..	3	82	6	85	1
	(p)	Agranulocytosis ..	..	..	..	..	..
	(q)	Diseases of spleen ..	..	17	..	17	1
	(r)	Other diseases of blood and blood- forming organs ..	..	21	2	21	..
		V.— <i>Mental, Psychoneurotic and Personality Disorders</i>					
		Psychoses:—					
A 67	(a)	Schizophrenic disorders (dementia præcox) ..	590	714	9	1,304	688
	(b)	Maniac-depressive reaction ..	399	708	4	1,107	417
	(c)	Involutional melancholia ..	27	82	..	109	32
	(d)	Paranoia and paranoid states ..	16	21	4	37	29
	(e)	Senile psychoses ..	184	70	10	254	144
	(f)	Other and unspecified psychoses ..	170	64	3	234	111
		<i>Carried forward</i> ..	2,966	16,522	1,086	19,488	2,891

APPENDIX IV—continued

RETURN OF DISEASES AND DEATHS FOR THE YEAR 1959—continued

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1958	YEARLY TOTAL		†Total cases treated	†Remain- ing at end of 1959
				Admissions	Deaths		
		<i>Brought forward</i> ..	2,966	16,522	1,086	19,488	2,891
A 68		V.— <i>Mental, Psychoneurotic and Personality Disorders—contd.</i>					
		Psychoneuroses and disorders of per- sonality:—					
	311	Hysterical reaction ..	5	79	..	84	3
(a)	314	Neurotic-depressive reaction ..	75	73	3	148	62
(b)	322	Alcoholism ..	1	57	..	58	1
(c)	323	Other drug addiction ..	15	1,743	..	1,758	77
(d)	310, 312-313						
(e)	315-321, 324	Other psychoneuroses and disorders of personality ..	19	413	15	432	201
	326						
A 69	325	Mental deficiency ..	159	91	..	250	130
		VI.— <i>Diseases of the Nervous System and Sense Organs</i>					
		Vascular lesions affecting central nervous system:—					
A 70	331	Cerebral hæmorrhage ..	5	211	156	216	14
(a)	332	Cerebral embolism and thrombosis ..	14	208	29	222	9
(b)	330	Other vascular lesions affecting central nervous system ..	2	49	10	51	1
(c)	333-334						
		<i>Carried forward</i> ..	3,261	19,446	1,299	22,707	3,389

APPENDIX IV—continued
RETURN OF DISEASES AND DEATHS FOR THE YEAR 1959—continued

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1958	YEARLY TOTAL		†Total cases treated	‡Remain- ing at end of 1959
				Admissions	Deaths		
		<i>Brought forward</i> ..	3,261	19,446	1,299	22,707	3,389
		<i>VI.—Diseases of the Nervous System and Sense Organs—contd.</i>					
A 71	340	Non-meningococcal meningitis ..	9	117	39	126	6
A 72	345	Multiple sclerosis ..	..	..	..	..	..
A 73	353	Epilepsy ..	3	182	4	185	..
A 74	370 371–379	Inflammatory diseases of eye:— Conjunctivitis and ophthalmia ..	..	54	..	54	3
	385	Other inflammatory diseases of eye ..	8	214	..	222	12
A 75	387	Cataract ..	20	576	..	596	16
A 76		Glaucoma ..	7	142	..	149	9
A 77	390 391–393 394	Otitis media and mastoiditis:— Otitis externa ..	1	20	..	21	..
		Otitis media and mastoiditis ..	3	126	2	129	4
		Other inflammatory diseases of ear ..	2	27	..	29	4
A 78		All other diseases of the nervous system and sense organs:—					
	380–384 386, 388 389	All other diseases and conditions of eye	18	317	..	335	16
		<i>Carried forward</i> ..	3,332	21,221	1,344	24,553	3,459

APPENDIX IV—continued

RETURN OF DISEASES AND DEATHS FOR THE YEAR 1959—continued

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1958	YEARLY TOTAL		†Total cases treated	‡Remain- ing at end of 1959
				Admissions	Deaths		
		<i>Brought forward</i> ..	3,332	21,221	1,344	24,553	3,459
		<i>VI. Diseases of the Nervous System and Sense Organs—contd.</i>					
A 78	(b)	Intracranial and intraspinal abscess ..	3	11	8	14	1
	(c)	Encephalitis, myelitis and encephalo- myelitis ..	12	203	45	215	13
	(d)	Paralysis agitans ..	4	21	2	25	4
	(e)	Other cerebral paralysis ..	34	86	2	120	34
	(f)	Motor neuron disease and muscular atrophy ..	2	6	1	8	1
	(g)	Other diseases of spinal cord ..	1	8	1	9	7
	(h)	Other and unspecified forms of neural- gia and neuritis ..	2	45	..	47	4
	(i)	Other diseases of cranial nerves ..	..	5	..	5	..
	(j)	Diseases of peripheral autonomic ner- vous system ..	..	2	..	2	..
	(k)	341, 344 351, 354 355 360-365 368 395-398					
		All other diseases of the nervous system and sense organs ..	2	145	3	147	2
		<i>Carried forward</i> ..	3,392	21,753	1,406	25,145	3,525

RETURN OF DISEASES AND DEATHS FOR THE YEAR 1959—continued

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Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1958	YEARLY TOTAL		†Total cases treated	†Remain- ing at end of 1959
				Admissions	Deaths		
		<i>Brought forward</i> ..	3,392	21,753	1,406	25,145	3,525
		VII.—Diseases of the Circulatory System					
		Rheumatic fever:—					
A 79	(a)	Rheumatic fever without mention of heart involvement ..	11	171	2	182	8
	(b)	Rheumatic fever with heart involvement ..	2	125	10	127	5
	(c)	Chorea ..	..	5	..	5	1
		Chronic rheumatic heart disease:—					
A 80	(a)	Diseases of valves specified as rheumatic ..	..	194	8	194	11
	(b)	Other endocarditis specified as rheumatic ..	..	3	..	3	..
	(c)	Other myocarditis specified as rheumatic ..	..	..	..	..	..
	(d)	Other heart disease specified as rheumatic ..	3	13	2	16	..
		Arteriosclerotic and degenerative heart disease:—					
A 81	(a)	Arteriosclerotic heart disease, including coronary disease ..	25	529	118	554	15
	(b)	Chronic endocarditis not specified as rheumatic ..	12	243	49	255	19
		<i>Carried forward</i> ..	3,445	23,036	1,595	26,481	3,584

APPENDIX IV—continued

RETURN OF DISEASES AND DEATHS FOR THE YEAR 1959—continued

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1958	YEARLY TOTAL		†Total cases treated	†Remain- ing at end of 1959
				Admissions	Deaths		
		<i>Brought forward</i> ..	3,445	23,036	1,595	26,481	3,584
		<i>VII.—Diseases of the Circulatory System</i> <i>—contd.</i>					
A 81	(c)	Other myocardial degeneration ..	1	6	3	7	..
A 82	(a) (b)	Other diseases of heart:— Acute and subacute endocarditis .. Acute myocarditis not specified as rheu- matic .. ..	.. .. ..	30 11	3 4	30 11	4 1
	(c) (d) (e)	Pericarditis not specified as rheumatic .. Functional disease of heart .. Other and unspecified diseases of heart .. Hypertension with heart disease .. Hypertension without mention of heart	1 .. 6 12 28	8 45 177 421 392	3 1 44 47 46	9 45 183 433 420	1 1 11 17 22
A 83	(a)	Diseases of arteries:—	1	11	5	12	1
A 84	(b)	General arteriosclerosis ..	..	10	3	10	..
A 85	(c)	Aortic aneurysm specified as non-syphi- litic and dissecting aneurysm .. Other aneurysm, except of heart and aorta .. ..	.. .. 5	5 25 6 23	.. 1 3 ..	5 30 6 28	.. 3 .. 4
	(d) (e) (f)	Peripheral vascular disease .. Arterial embolism and thrombosis .. Gangrene of unspecified cause ..	5 .. 5				
		<i>Carried forward</i> ..	3,504	24,206	1,758	27,710	3,649

APPENDIX IV—continued
RETURN OF DISEASES AND DEATHS FOR THE YEAR 1959—continued

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1958	YEARLY TOTAL		†Total cases treated	†Remain- ing at end of 1959
				Admissions	Deaths		
		<i>Brought forward</i> ..	3,504	24,206	1,758	27,710	3,649
		VII.— <i>Diseases of the Circulatory System</i> — <i>contd.</i>					
A 85	456	Other diseases of arteries ..	..	27	1	27	..
A 86	460, 462	Other diseases of circulatory system:—					
(a)	461	Varicose veins ..	1	57	..	58	2
(b)	463-464	Hæmorrhoids ..	8	541	..	549	10
(c)	465	Phlebitis and thrombophlebitis ..	..	35	..	35	1
(d)	466	Pulmonary embolism and infarction ..	..	..	..	..	..
(e)		Other venous embolism and throm- bosis ..	..	10	..	10	..
(f)	467	Other diseases of circulatory system ..	..	11	1	11	..
(g)	468	Adenitis, Lymphadenitis, and other diseases of lymph nodes and lymph channels ..	..	124	..	127	4
		VIII.— <i>Diseases of the Respiratory System</i>					
A 87	470	Acute upper respiratory infections:— Acute nasopharyngitis (common cold)	..	47	..	47	2
		<i>Carried forward</i> ..	3,516	25,058	1,760	28,574	3,668

APPENDIX IV—continued

RETURN OF DISEASES AND DEATHS FOR THE YEAR 1959—continued

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1958	YEARLY TOTAL		†Total cases treated	‡Remain- ing at end of 1959
				Admissions	Deaths		
		<i>Brought forward</i> ..	3,516	25,058	1,760	28,574	3,668
		VIII.— <i>Diseases of the Respiratory System</i> —contd.					
A 87	(b) (c) (d) (e) (f)	Acute sinusitis ..	..	15	..	15	..
		Acute pharyngitis ..	2	931	..	933	1
		Acute tonsillitis ..	10	785	..	795	13
		Acute laryngitis and tracheitis ..	2	38	3	40	3
		Acute upper respiratory infection of multiple or unspecified sites ..	1	12	1	13	..
A 88		Influenza ..	..	78	..	78	2
A 89		Lobar Pneumonia ..	1	238	37	239	7
A 90		Broncho-pneumonia ..	15	1,525	296	1,540	16
A 91		Primary atypical, other and unspecified pneumonia ..	3	79	20	82	1
A 92		Acute bronchitis ..	..	254	5	254	..
A 93	(a) (b)	Bronchitis, chronic and unqualified:— Bronchitis unqualified ..	..	123	..	123	1
		Chronic bronchitis ..	1	87	6	88	3
A 94		Hypertrophy of tonsils and adenoids ..	..	231	..	231	2
A 95	(a) (b)	Empyema and Abscess of lung:— Empyema ..	5	63	9	68	4
		Abscess of lung ..	3	39	6	42	3
A 96		Pleurisy ..	22	123	2	145	21
		<i>Carried forward</i> ..	3,581	29,679	2,145	33,260	3,745

APPENDIX IV—continued

RETURN OF DISEASES AND DEATHS FOR THE YEAR 1959—continued

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1958	YEARLY TOTAL		†Total cases treated	‡Remain- ing at end of 1959
				Admissions	Deaths		
		<i>Brought forward</i> ..	3,581	29,679	2,145	33,260	3,745
		VIII.— <i>Diseases of the Respiratory System</i> —contd.					
A 97		All other respiratory diseases:—					
(a)	517	Other diseases of upper respiratory tract ..	1	33	1	34	..
(b)	520	Spontaneous pneumothorax ..	10	48	6	58	7
(c)	522	Pulmonary congestion and hypostasis ..		2	1	2	..
(d)	525	Other chronic interstitial pneumonia ..	..	1	..	1	..
(e)	523	Pneumoconiosis ..	..	3	..	3	..
(f)	526	Bronchiectasis ..	8	232	13	240	6
(g)	511-516 524 527	All other respiratory diseases ..	1	194	8	195	..
		IX.— <i>Diseases of the Digestive System</i>					
A 98		Diseases of teeth and supporting structures:—					
(a)	530	Dental caries ..	..	28	..	28	..
(b)	532.0	Gingivitis ..	..	2	..	2	..
(c)	532.1, 532.2	Pyorrhœa ..	..	6	..	6	..
		<i>Carried forward</i> ..	3,601	30,228	2,174	33,829	3,758

APPENDIX IV—continued

RETURN OF DISEASES AND DEATHS FOR THE YEAR 1959—continued

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1958	YEARLY TOTAL		†Total cases treated	‡Remain- ing at end of 1959
				Admissions	Deaths		
		<i>Brought forward</i> ..	3,601	30,228	2,174	33,829	3,758
		<i>IX.—Diseases of the Digestive System</i> <i>—contd.</i>					
A 98	(d) 531, 533-535	Other diseases of teeth and supporting structures ..	1	46	..	47	1
A 99	540	Ulcer of stomach ..	29	750	14	779	28
A 100	541	Ulcer of duodenum ..	13	259	2	272	13
A 101	543	Gastritis and duodenitis ..	3	191	..	194	1
A 102	550-553	Appendicitis ..	25	1,778	7	1,803	36
A 103		Intestinal obstruction and hernia:—					
(a)	560	Hernia of abdominal cavity without mention of obstruction ..	5	759	3	764	11
(b)	561	Hernia of abdominal cavity with obstruction ..	..	79	5	79	..
(c)	570.0	Intussusception ..	..	63	6	63	1
(d)	570.3	Volvulus ..	1	4	3	5	1
(e)	570.1, 570.2 } 570.4, 570.5 }	Other intestinal obstruction ..	3	92	23	95	4
A 104		Gastro-enteritis and colitis, except diarrhoea of the new born:—					
(a)	571.0	Gastro-enteritis and colitis, ages between four weeks and two years ..	27	1,574	124	1,601	18
		<i>Carried forward</i> ..	3,708	35,823	2,361	39,531	3,872

APPENDIX IV—continued

RETURN OF DISEASES AND DEATHS FOR THE YEAR 1959—continued

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Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1958	YEARLY TOTAL		†Total cases treated	†Remain- ing at end of 1959
				Admissions	Deaths		
		<i>Brought forward ..</i>	3,708	35,823	2,361	39,531	3,872
		<i>IX.—Diseases of the Digestive System</i> <i>—contd.</i>					
A 104	(b) 571.1	Gastro-enteritis and colitis, ages two years and over ..	4	584	42	588	10
(c)	572	Chronic enteritis and ulcerative colitis ..	..	23	..	23	..
A 105	(a) 581.0	Cirrhosis of liver:—					
(b)	581.1	Cirrhosis of liver without mention of alcoholism ..	5	314	47	319	6
		Cirrhosis of liver with alcoholism ..	..	19	..	19	..
A 106	(a) 584	Cholelithiasis and Cholecystitis:—					
(b)	585	Cholelithiasis ..	..	118	5	118	2
		Cholecystitis without mention of calculi ..	5	318	15	323	11
A 107	(a) 536	Other diseases of Digestive System:—					
(b)	537, 538	Stomatitis ..	..	48	..	48	1
		Other diseases of buccal cavity ..	1	15	..	16	..
(c)	539.0	Functional disorders of oesophagus ..	3	13	5	16	2
(d)	539.1	Stricture or obstruction of oesophagus	1	46	5	47	4
(e)	544	Disorders of function of stomach ..	..	5	..	5	..
(f)	542, 545	Other diseases of stomach and duodenum ..	2	61	6	63	5
		<i>Carried forward ..</i>	3,729	37,387	2,486	41,116	3,913

APPENDIX IV—continued

RETURN OF DISEASES AND DEATHS FOR THE YEAR 1959—continued

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1958	YEARLY TOTAL		†Total cases treated	‡Remain- ing at end of 1959
				Admissions	Deaths		
		<i>Brought forward</i> ..	3,729	37,387	2,486	41,116	3,913
		IX.—Diseases of the Digestive System <i>—contd.</i>					
A 107	(g)	Constipation ..	1	26	..	27	1
	(h)	Other functional disorders of intestines	..	16	..	16	..
	(i)	Anal fissure and fistula ..	2	118	..	120	5
	(j)	Abscess of anal and rectal regions ..	3	246	..	249	3
	(k)	Peritonitis ..	1	43	22	44	2
	(l)	Other diseases of intestines and peri- toneum ..	3	43	..	46	1
	(m)	Acute yellow atrophy of liver ..	..	7	5	7	..
	(n)	Other diseases of liver ..	1	48	11	49	7
	(o)	Other diseases of gall-bladder and biliary ducts ..	1	18	..	19	1
	(p)	Diseases of pancreas ..	..	42	2	42	..
		X.—Diseases of the Genito-Urinary System					
A 108	590	Acute nephritis ..	14	541	5	555	20
A 109		Chronic, other and unspecified nephri- tis:—					
	591	Nephritis with œdema, including nep- hrosis ..	6	197	1	203	8
		<i>Carried forward</i> ..	3,761	38,732	2,532	42,493	3,961

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1958	YEARLY TOTAL		†Total cases treated	†Remain- ing at end of 1959
				Admissions	Deaths		
		<i>Brought forward</i> ..	3,761	38,732	2,532	42,493	3,961
		<i>X.—Diseases of the Genito-Urinary System</i> <i>—contd.</i>					
		Chronic nephritis ..	7	132	70	139	4
A 109	(b)	Nephritis not specified as acute or chronic ..	..	14	..	14	2
	(c)	Other renal sclerosis ..	..	3	1	3	..
A 110	(d)	Infections of kidney ..	9	221	10	230	6
		Calculi of urinary system:—					
A 111	(a)	Calculi of kidney and ureter ..	2	241	2	243	4
	(b)	Calculi of other parts of urinary system ..	..	66	3	66	2
A 112		Hyperplasia of prostate ..	3	112	3	115	13
A 113		Diseases of breast ..	3	222	..	225	3
		Other diseases of genito-urinary system:—					
A 114	(a)	Other diseases of kidney and ureter ..	..	18	..	18	..
	(b)	Cystitis ..	2	101	5	103	1
	(c)	Other diseases of bladder ..	1	11	..	12	2
	(d)	Stricture of urethra ..	..	42	1	42	..
	(e)	Other diseases of urethra ..	1	44	1	45	..
	(f)	Other diseases of prostate ..	..	61	..	61	..
	(g)	Hydrocele ..	..	181	..	181	1
	(h)	Orchitis and epididymitis ..	..	74	..	74	1
	(i)	Other diseases of male genital organs ..	..	292	..	292	6
	(j)	Acute salpingitis and oophoritis ..	..	104	..	104	1
		<i>Carried forward</i> ..	3,789	40,671	2,628	44,460	4,007

APPENDIX IV—continued

RETURN OF DISEASES AND DEATHS FOR THE YEAR 1959—continued

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1958	YEARLY TOTAL		†Total cases treated	‡Remain- ing at end of 1959
				Admissions	Deaths		
		<i>Brought forward</i> ..	3,789	40,671	2,628	44,460	4,007
		<i>X.—Diseases of the Genito-Urinary System</i> <i>—contd.</i>					
A 114	(k)	Other diseases of ovary and Fallopian tube ..	..	127	10	127	1
	(l)	Diseases of parametrium and pelviperitoneum (female) ..	2	54	..	56	4
	(m)	Infective disease of uterus, vagina and vulva ..	..	104	..	104	..
	(n)	Other diseases of uterus ..	6	297	7	303	7
	(o)	Disorders of menstruation ..	1	293	..	294	..
	(p)	Other diseases of female genital organs ..	2	337	5	339	5
	(q)	All other diseases of the genito-urinary system ..	2	80	..	82	2
		<i>XI.—Deliveries and Complications of Pregnancy, Childbirth and the Puerperium</i>					
A 115		Sepsis of pregnancy, childbirth and the puerperium:—					
	(a)	Pyelitis and pyelonephritis of pregnancy	1	37	..	38	..
	(b)	Other infections of genito-urinary tract during pregnancy ..	..	10	..	10	2
	(c)	Sepsis of childbirth and the puerperium ..	1	123	5	124	4
		<i>Carried forward</i> ..	3,804	42,133	2,655	45,937	4,032

APPENDIX IV—continued

RETURN OF DISEASES AND DEATHS FOR THE YEAR 1959—continued

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Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1958	YEARLY TOTAL		†Total cases treated	‡Remain- ing at end of 1959
				Admissions	Deaths		
		<i>Brought forward</i> ..	3,804	42,133	2,655	45,937	4,032
		XI.— <i>Deliveries and Complications of Pregnancy, Childbirth and the Puerperium</i> —contd.					
A 115	682 684	Puerperal phlebitis and thrombosis .. Puerperal pulmonary embolism ..	....	....	....	....	....
A 116		Toxæmias of pregnancy and the puerperium:—					
(a)	642.2	Pre-eclampsia of pregnancy ..	26	1,103	..	1,129	34
(b)	642.3	Eclampsia of pregnancy ..	3	43	5	46	..
(c)	642.4	Hyperemesis gravidarum ..	3	56	..	59	..
(d)	642.5	Acute yellow atrophy of liver of pregnancy ..	..	4	1	4	..
(e)	642.5	Other toxæmias of pregnancy ..	..	7	..	7	..
(f)	652	Abortion with toxæmia, without mention of sepsis ..	..	..	..	..	..
(g)	685	Puerperal eclampsia ..	..	..	..	..	..
(h)	686	Other forms of puerperal toxæmia ..	..	1	1	1	..
A 117		Hæmorrhage of pregnancy and childbirth:—					
(a)	643	Placenta prævia ..	..	48	..	48	..
(b)	644	Other hæmorrhage of pregnancy ..	..	2	..	2	2
		<i>Carried forward</i> ..	3,836	43,397	2,662	47,233	4,068

APPENDIX IV—continued

RETURN OF DISEASES AND DEATHS FOR THE YEAR 1959—continued

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1958	YEARLY TOTAL		†Total cases treated	†Remain- ing at end of 1959
				Admissions	Deaths		
		<i>Brought forward</i> ..	3,836	43,397	2,662	47,233	4,068
		<i>XI.—Deliveries and Complications of Pregnancy, Childbirth and the Puerperium</i> <i>—contd.</i>					
A 117	(c)	Delivery complicated by placenta præ- via or antepartum hæmorrhage ..	8	339	..	347	..
	(d)	Delivery complicated by retained pla- centa ..	3	518	2	521	3
	(e)	Delivery complicated by other post- partum hæmorrhage ..	24	3,845	8	3,869	4
A 118		Abortion without mention of sepsis or toxæmia ..	12	3,490	1	3,502	20
A 119		Abortion with sepsis ..	2	236	4	238	2
A 120		Other complications of pregnancy, child- birth and the puerperium:—					
	(a)	Ectopic pregnancy ..	2	176	3	178	3
	(b)	Anæmia of pregnancy ..	6	489	3	495	3
	(c)	Pyrexia of unknown origin during the puerperium ..	4	287	..	291	..
	(d)	Puerperal psychoses ..	..	10	..	10	..
	(e)	Mastitis and other disorders of lacta- tion ..	1	28	..	29	..
		<i>Carried forward</i> ..	3,898	52,815	2,683	56,713	4,103

APPENDIX IV—continued

RETURN OF DISEASES AND DEATHS FOR THE YEAR 1959—continued

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1958	YEARLY TOTAL		†Total cases treated	‡Remain- ing at end of 1959
				Admissions	Deaths		
A 120 (f)	647-649 673-680 687 688.0 688.2-688.3	<i>Brought forward</i> ..	3,898	52,815	2,683	56,713	4,103
		XI.— <i>Deliveries and Complications of Pregnancy, Childbirth and the Puerperium</i> —contd.					
		Other complications of pregnancy, childbirth and the puerperium ..	41	7,464	12	7,505	39
		Delivery without complications ..	139	24,097	..	24,236	150
A 121	690 691-693 694-698	XII.— <i>Diseases of the Skin and Cellular Tissue</i>					
		XIII.— <i>Diseases of the Bones and Organs of Movement</i>					
		Infections of skin and subcutaneous tissue:—					
		Boil and carbuncle ..	5	139	..	144	2
		Cellulitis and abscess ..	21	1,164	9	1,185	20
(c)	694-698	Other infections of skin and subcutaneous tissue ..	33	840	..	873	25
		<i>Carried forward</i> ..	4,137	86,519	2,704	90,656	4,339

APPENDIX IV—continued

RETURN OF DISEASES AND DEATHS FOR THE YEAR 1959—continued

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1958	YEARLY TOTAL		†Total cases treated	†Remain- ing at end of 1959
				Admissions	Deaths		
		<i>Brought forward</i> ..	4,137	86,519	2,704	90,656	4,339
		XIII.—Diseases of the Bones and Organs of Movement—contd.					
		Arthritis and spondylitis:—					
A 122	(a) 720	Acute arthritis due to pyogenic organisms ..	4	72	..	76	2
	(b) 721	Acute nonpyogenic arthritis ..	1	1	..	2	..
	(c) 722	Rheumatoid arthritis and allied conditions ..	5	93	..	98	2
A 123	(d) 723-725	Arthritis specified and unspecified ..	10	85	1	95	4
		Muscular rheumatism and rheumatism, unspecified:—					
	(a) 726	Muscular rheumatism ..	..	22	..	22	..
	(b) 727	Rheumatism unspecified ..	..	3	..	3	..
A 124	730	Osteomyelitis and periostitis ..	14	182	1	196	15
A 125		Ankylosis and acquired musculoskeletal deformities:—					
	(a) 737	Ankylosis of joint ..	..	3	..	3	1
	(b) 745-749	Other acquired musculoskeletal deformities ..	5	69	..	74	1
A 126		All other diseases of skin and musculoskeletal system:—					
	(a) 715	Chronic ulcer of skin (including tropical ulcer) ..	7	85	..	92	4
		<i>Carried forward</i> ..	4,183	87,134	2,706	91,317	4,368

APPENDIX IV—continued

RETURN OF DISEASES AND DEATHS FOR THE YEAR 1959—continued

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Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1958	YEARLY TOTAL		†Total cases treated	‡Remain- ing at end of 1959
				Admissions	Deaths		
		<i>Brought forward</i> ..	4,183	87,134	2,706	91,317	4,368
		XIII.—Diseases of the Bones and Organs of Movement—contd.					
A 126	(b) } 700-714 716	All other diseases of skin and subcu- taneous tissue ..	11	256	4	267	12
(c) } 731-736 738-744		All other diseases of musculoskeletal system ..	1	602	..	603	5
		XIV.—Congenital Malformations					
A 127	751	Spina bifida and meningocele ..	..	14	1	14	2
A 128	754	Congenital malformation of circulatory system ..	11	231	39	242	4
A 129	(a) 750 (b) 752 (c) 753 (d) 755	All other congenital malformations:— Monstrosity .. Congenital hydrocephalus .. Other congenital malformations of nervous system and sense organs .. Cleft palate and harelip ..	.. 2 .. .. .. ..	.. 28 .. 15 128	.. 7 .. .. ..	.. 30 .. 15 .. 128	.. .. .. 7
		<i>Carried forward</i> ..	4,208	88,408	2,757	92,616	4,398

APPENDIX IV—continued

RETURN OF DISEASES AND DEATHS FOR THE YEAR 1959—continued

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1958	YEARLY TOTAL		†Total cases treated	†Remain- ing at end of 1959
				Admissions	Deaths		
		<i>Brought forward</i> ..	4,208	88,408	2,757	92,616	4,398
		<i>XIV.—Congenital Malformations—contd.</i>					
A 129	(e)	756.0 Congenital hypertrophic pyloric stenosis	..	4	1	4	..
	(f)	756.1 Imperforate anus	..	21	7	21	..
	(g)	756.2 Other congenital malformations of digestive system	1	30	9	31	..
	(h)	757 Congenital malformations of genitourinary system	..	36	..	36	2
	(i)	758 Congenital malformations of bone and joint	1	25	..	26	2
	(j)	759 Other and unspecified congenital malformations, not elsewhere classified	..	39	3	39	..
		<i>XV.—Certain Diseases of Early Infancy</i>					
A 130	(a)	760 Birth injuries:— Intracranial and spinal injury at birth	..	8	1	8	..
	(b)	761 Other birth injury	..	5	3	5	..
		<i>Carried forward</i> ..	4,210	88,576	2,781	92,786	4,402

RETURN OF DISEASES AND DEATHS FOR THE YEAR 1959—continued

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1958	YEARLY TOTAL		†Total cases treated	‡Remain- ing at end of 1959
				Admissions	Deaths		
		<i>Brought forward</i> ..	4,210	88,576	2,781	92,786	4,402
		XV.— <i>Certain Diseases of Early Infancy</i> —contd.					
A 131	762	Postnatal asphyxia and atelectasis ..	..	9	5	9	..
A 132	763	Infections of the newborn:—					
	764	Pneumonia of newborn ..	..	132	55	132	..
	765	Diarrhoea of newborn ..	1	216	23	217	5
	766	Ophthalmia neonatorum ..	..	4	..	4	..
	767	Pemphigus neonatorum ..	2	8	1	10	..
	768	Umbilical sepsis ..	..	29	1	29	..
		Other sepsis of newborn ..	..	2	2	2	..
A 133	770	Hæmolytic disease of newborn ..	..	62	36	62	..
A 134	769, 772 } 771, 772 }	All other defined diseases of early in- fancy ..	..	31	7	31	1
		Ill-defined diseases peculiar to early in- fancy, and immaturity unqualified:—					
A 135	773	Ill-defined diseases peculiar to early in- fancy ..	..	21	3	21	..
	774-776	Immaturity and immaturity unqualified ..	4	18	6	22	..
		<i>Carried forward</i> ..	4,217	89,108	2,920	93,325	4,408

APPENDIX IV—continued

RETURN OF DISEASES AND DEATHS FOR THE YEAR 1959—continued

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1958	YEARLY TOTAL		†Total cases treated	‡Remain- ing at end of 1959
				Admissions	Deaths		
		<i>Brought forward</i> ..	4,217	89,108	2,920	93,325	4,408
		XVI.— <i>Symptoms, Senility and Ill-Defined Conditions</i>					
A 136	794	Senility without mention of psychoses..	4	14	..	18	2
A 137		Ill-defined and unknown causes of morbi- dity and mortality:—					
(a)	780-789 except 788.8	Symptoms referable to systems or or- gans	36	1,922	30	1,958	48
(b)	788.8	Pyrexia of unknown origin ..	10	325	6	335	5
(c)	793	Observation, without need for further medical care ..	14	492	1	506	4
(d)	795.1	Malingering .. ..	..	48	..	48	4
(e)	795.2	Sudden death (cause unknown) ..	..	..	..	..	..
(f)	795.3	Found dead (cause unknown) ..	..	1	1	1	..
(g)	790-792 795.0, 795.4 795.5	Other ill-defined and unknown causes of morbidity and mortality ..	..	44	..	44	..
		<i>Carried forward</i> ..	4,281	91,954	2,958	96,235	4,471

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1958	YEARLY TOTAL		†Total cases treated	†Remain- ing at end of 1959
				Admissions	Deaths		
		<i>Brought forward</i> ..	4,281	91,954	2,958	96,235	4,471
		XVII.—Accidents, Poisonings and Violence					
		‘E’ Code: <i>Alternative Classification of Accidents, Poisonings and Violence (External Causes)</i>					
AE 138	E810-E835	Motor vehicle accidents ..	24	1,550	145	1,574	40
AE 139	E800-E802	Other Transport Accidents:— Railway accidents ..	1	..	..	1	1
(a)	E850-E858	Water transport accidents ..	..	7	..	7	..
(b)	E860-E866	Aircraft accidents ..	..	..	..	..	..
(c)	E840-E845	Other road vehicle accidents ..	..	62	1	62	2
AE 140		Accidental poisoning:—					
(a)	E870	Accidental poisoning by morphia and other opium derivatives ..	..	8		8	..
(b)	E874	Accidental poisoning by other analgesic and soporific drugs ..	..	59	2	59	..
(c)	E878	Accidental poisoning by other and unspecified drugs ..	..	22	..	22	..
(d)	E883	Accidental poisoning by corrosive aromatics, acids and caustic alkalis	..	105	11	105	1
		<i>Carried forward</i> ..	4,306	93,767	3,117	98,073	4,515

APPENDIX IV—continued

RETURN OF DISEASES AND DEATHS FOR THE YEAR 1959.—continued

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1958	YEARLY TOTAL		†Total cases treated	†Remain- ing at end of 1959
				Admissions	Deaths		
		<i>Brought forward</i> ..	4,306	93,767	3,117	98,073	4,515
		XVII.—Accidents, Poisonings and Violence —contd.					
		‘E’ Code: <i>Alternative Classification of Accidents, Poisonings and Violence (External Causes)</i> —contd.					
AE 140 (e)	E884	Accidental poisoning by mercury and its compounds	..	1	..	1	..
(f)	E885	Accidental poisoning by lead and its compounds	..	2	..	2	..
(g)	E886	Accidental poisoning by arsenic and antimony and their compounds	..	7	2	7	1
(h)	E888	Accidental poisoning by other and un- specified solid or liquid substances	..	208	..	208	..
(i)	E890-E895	Accidental poisoning by gases and vapours	..	..	..	..	..
(j)	E871-E873 E875-E877 E879-E882 E887	Other accidental poisoning	..	9	2	9	..
AE 141	E900-E904	Accidental falls	43	991	26	1,034	39
AE 142	E912	Accident caused by machinery	..	13	..	13	1
AE 143	E916	Accident caused by fire and explosion of combustible material	7	180	2	187	11
AE 144	E917-E918	Accident caused by hot substance, cor- rosive liquid, steam and radiation	8	519	2	527	22
		<i>Carried forward</i> ..	4,364	95,697	3,151	100,061	4,589

RETURN OF DISEASES AND DEATHS FOR THE YEAR 1959—continued

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Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1958	YEARLY TOTAL		†Total cases treated	†Remain- ing at end of 1959
				Admissions	Deaths		
		<i>Brought forward</i> ..	4,364	95,697	3,151	100,061	4,589
		XVII.— <i>Accidents, Poisonings and Violence</i> —contd.					
		'E' Code: <i>Alternative Classification of</i> <i>Accidents, Poisonings and Violence</i> <i>(External Causes)—contd.</i>					
AE 145	E919	Accident caused by firearms ..	..	1	..	1	..
AE 146	E929	Accidental drowning and submersion ..	..	25	..	25	..
AE 147	E920	All other accidental causes:—	..	9	..	9	..
(a)	E923	Foreign body entering eye and adnexa ..	1	104	2	105	1
(b)	E927	Foreign body entering other orifice ..	..	61	..	61	..
(c)	E928	Accidents caused by bites and stings of venomous animals and insects ..	..	8	..	8	..
(d)	E913	Other accidents caused by animals ..	..	95	..	97	..
(e)	E913	Accidents caused by cutting or piercing instruments ..	2	19	3	19	..
(f)	E914	Accidents caused by electric current ..	..	..	..	..	..
(g)	E924, E925	Accidental mechanical suffocation ..	..	..	..	..	..
(h)	E926	Lack of care of infants under one year of age ..	..	..	..	..	..
(i)	E931	Excessive heat ..	..	..	..	..	..
(j)	E932	Excessive cold ..	..	..	..	..	..
		<i>Carried forward</i> ..	4,367	96,019	3,156	100,386	4,590

APPENDIX IV—continued
RETURN OF DISEASES AND DEATHS FOR THE YEAR 1959—continued

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1958	YEARLY TOTAL		†Total cases treated	†Remain- ing at end of 1959
				Admissions	Deaths		
		<i>Brought forward</i> ..	4,367	96,019	3,156	100,386	4,590
		XVII.—Accidents, Poisonings and Violence —contd.					
		'E' Code: Alternative Classification of Accidents, Poisonings and Violence (External Causes)—contd.					
AE 147	(k)	Hunger, thirst and exposure ..	..	..	..	..	..
	(l)	Cataclysm ..	..	..	..	..	..
	(m)	Lightning ..	..	1	..	1	..
	(n)	Other and unspecified accidents ..	..	2	..	2	..
	(o)	Vaccinia including post-vaccinal encephalitis ..	1	6	..	7	..
	(p)	Other complications of small-pox vacci- nation ..	..	1	..	1	..
	(q)	Anæsthetic accidents ..	..	..	..	..	..
	(r)	Accidents due to medical or surgical intervention ..	..	13	..	13	..
	(s)	All other accidental causes ..	18	629	10	647	14
		<i>Carried forward</i> ..	4,386	96,671	3,166	101,057	4,604

APPENDIX IV—continued							
RETURN OF DISEASES AND DEATHS FOR THE YEAR 1959—continued							
Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1958	YEARLY TOTAL		†Total cases treated	‡Remain- ing at end of 1959
				Admissions	Deaths		
		<i>Brought forward</i> ..	4,386	96,671	3,166	101,057	4,604
		XVII.— <i>Accidents, Poisonings and Violence</i> — <i>contd.</i>					
		‘E’ Code: <i>Alternative Classification of</i> <i>Accidents, Poisonings and Violence</i> <i>(External Causes)</i> — <i>contd.</i>					
AE 148		Suicide and self-inflicted injury:—					
	(a)	Suicide and self-inflicted injury by analgesic and soporific substances ..	..	19	..	19	..
	(b)	Suicide and self-inflicted injury by other solid and liquid substances ..	..	58	10	58	1
	(c)	Suicide and self-inflicted injury by gases in domestic use ..	..	..	..	..	..
	(d)	Suicide and self-inflicted injury by other gases ..	..	..	..	..	..
	(e)	Suicide and self-inflicted injury by hanging or strangulation ..	..	7	..	7	..
	(f)	Suicide and self-inflicted injury by submersion (drowning) ..	..	4	..	4	..
	(g)	Suicide and self-inflicted injury by firearms and explosives ..	1	2	1	3	..
	(h)	Suicide and self-inflicted injury by cutting or piercing instruments ..	3	12	..	15	..
		<i>Carried forward</i> ..	4,390	96,773	3,177	101,163	4,605

APPENDIX IV—continued

RETURN OF DISEASES AND DEATHS FOR THE YEAR 1959—continued

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1958	YEARLY TOTAL		†Total cases treated	†Remain- ing at end of 1959
				Admissions	Deaths		
		<i>Brought forward</i> ..	4,390	96,773	3,177	101,163	4,605
		XVII.—Accidents, Poisonings and Violence —contd.					
		‘E’ Code: Alternative Classification of Accidents, Poisonings and Violence (External Causes)—contd.					
AE 48 (i)	E978	Suicide and self-inflicted injury by jumping from high places ..	..	2	1	2	..
(j)	E963, E979	Suicide and self-inflicted injury by other and unspecified means ..	..	6	..	6	..
AE 149		Homicide and injury purposely inflicted by other persons (not in war):—					
(a)	E980	Non-accidental poisoning by another person ..	..	..	..	..	..
(b)	E981	Assault by firearms and explosives ..	2	28	..	30	1
(c)	E982	Assault by cutting and piercing instru- ments ..	3	223	8	226	2
(d)	E964, E983	Assault by other means ..	6	476	4	482	2
(e)	E984	Injury by intervention of police ..	..	..	..	..	..
(f)	E985	Execution (legal) ..	..	..	..	..	..
AE 150	E990-E999 } E965	Injury resulting from operations of war	..	..	..	..	..
		Grand Total ..	4,401	97,508	3,190	101,909	4,610

APPENDIX IV—continued
HOSPITALS, STATE OF SINGAPORE IN-PATIENTS
 BY RACIAL GROUPS FOR THE YEAR, 1959

Racial Group		*Remain- ing at end of 1958	YEARLY TOTAL		†Total cases treated	‡Remain- ing at end of 1959
			Admissions	Deaths		
Europeans	..	23	748	16	771	13
Eurasians	..	38	1,004	24	1,042	37
Chinese	..	3,623	75,173	2,585	78,796	3,786
Indians and Pakistanis	..	404	13,439	331	13,843	494
Malays	..	282	5,636	190	5,918	251
Javanese	..	31	1,508	44	1,539	29
Others	..					
Total	..	4,401	97,508	3,190	101,909	4,610
Healthy persons admitted to hospital to accompany children or friends	..		—		—	
Transfers to other Hospitals from General Hospital	..	..	220	..	220	..

APPENDIX V

SINGAPORE (excluding Christmas and Cocos-keeling Islands)

DEATHS BY CAUSE, 1953-59

According to the Intermediate List, adapted for use in Singapore, of the Sixth Revision (1948) of the International List of Diseases and causes of Death

Inter- mediate List Number	Detailed List Numbers	CAUSE OF DEATH (Intermediate International List, Sixth Revision, 1948)	1959	1958	1957	1956	1955	1954	1953
I.—INFECTIOUS AND PARASITIC DISEASES									
A 1	001-008	Tuberculosis of respiratory system	577	568	671	673	827	829	811
A 2	010	Tuberculosis of meninges and central nervous system	35	22	44	67	106	91	129
A 3	011	Tuberculosis of intestines, peritoneum and mesenteric glands	4	9	6	5	9	8	6
A 4	(a) (b) 012.0, 013.0 012, 013 except 012.0, 013.0	Tuberculosis of bones and joints:—	2	3	2	4	7	6	6
		Tuberculosis of the vertebral column	3	—	1	1	1	1	—
		Tuberculosis of other bones and joints	—	—	—	—	—	—	—
A 5	(a) (b) (c) (d) (e) (f)	Tuberculosis, all other forms:—	—	—	—	—	1	—	1
		Tuberculosis of skin and sub-cutaneous cellular tissue	—	2	—	1	—	—	1
		Tuberculosis of lymphatic system	—	5	3	2	1	—	1
		Tuberculosis of genito-urinary system	—	—	—	—	—	—	—
		Tuberculosis of adrenal glands	—	3	1	2	1	—	1
		Tuberculosis of other organs	7	12	23	29	36	28	50
		Disseminated tuberculosis	—	—	—	—	—	—	—
A 6	020	Congenital syphilis	3	5	11	12	6	15	27
A 7	(a) (b) (c) (d)	Early Syphilis:—	—	—	—	—	—	—	—
		Primary syphilis	—	1	—	—	—	—	—
		Secondary syphilis	—	—	—	—	—	—	—
		Early syphilis, relapse following treatment	—	—	—	—	—	—	—
		Early syphilis (unspecified stage)	—	—	—	—	—	—	—
Carried forward .. .			631	630	762	796	995	979	1,033

—means nil

RETURN OF DEATHS BY CAUSES, 1953-59—continued

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Inter- mediate List Number	Detailed List Numbers	CAUSE OF DEATH (Intermediate International List, Sixth Revision, 1948)	1959	1958	1957	1956	1955	1954	1953
		<i>Brought forward ..</i>	631	630	762	796	995	979	1,033
		I.—INFECTIOUS AND PARASITIC DISEASES—contd.							
A 8	024	Tabes dorsalis	5	1	2	3	3	4	9
A 9	025	General paralysis of insane	5	14	7	7	46	45	28
A 10		All other syphilis:—							
(a)	022	Aneurysm of aorta	14	18	21	23	14	27	20
(b)	023	Other cardiovascular syphilis	6	11	9	11	16	28	13
(c)	026	Other syphilis of central nervous system	4	2	4	1	1	4	1
(d)	027	Other forms of late syphilis	1	3	—	—	1	1	4
(e)	028	Latent Syphilis	—	—	—	—	1	—	—
(f)	029	Syphilis, unqualified	—	—	1	4	2	1	1
A 11		Gonococcal infections:—							
(a)	030	Acute or unspecified gonorrhoea	—	—	—	—	—	—	—
(b)	031	Chronic gonococcal infection of genito-urinary system	—	—	—	—	—	—	—
(c)	032	Gonococcal infection of joint	—	—	—	—	—	—	—
(d)	033	Gonococcal infection of eye	—	—	—	—	—	—	—
(e)	034-035	Gonococcal infection of other sites	—	—	—	—	1	—	—
A 12	040	Typhoid fever	9	9	8	8	15	15	12
A 13		Paratyphoid fever and other Salmonella infections:—							
(a)	041	Paratyphoid fever A, B, or C	—	—	1	—	—	—	—
(b)	042	Other Salmonella infections	—	1	—	—	—	—	—
A 14	043	Cholera	—	—	—	—	—	—	—
A 15	044	Brucellosis (undulant fever)	—	—	—	—	—	—	—
A 16		Dysentery, all forms:—							
(a)	045	Bacillary dysentery	4	7	7	4	3	17	7
(b)	046	Amoebiasis	15	13	12	14	11	15	19
(c)	047-048	Other protozoal and unspecified forms of dysentery	9	12	12	5	13	15	18
		<i>Carried forward ..</i>	703	721	846	876	1,122	1,151	1,165

— means nil.

APPENDIX V—continued
 RETURN OF DEATHS BY CAUSES, 1953-59—continued

Inter- mediate List Number	Detailed List Numbers	CAUSE OF DEATH (Intermediate International List, Sixth Revision, 1948)	1959	1958	1957	1956	1955	1954	1953
		<i>Brought forward</i> ..	703	721	846	876	1,122	1,151	1,165
		I.—INFECTIOUS AND PARASITIC DISEASES—contd.							
A 17	050	Scarlet fever	—	—	—	1	—	—	1
A 18	051	Streptococcal sore throat	1	—	—	—	—	—	—
A 19	052	Erysipelas	—	—	1	—	—	—	—
A 20	053	Septicæmia and pyæmia	18	24	22	17	15	11	32
A 21	055	Diphtheria	32	40	66	66	49	39	59
A 22	056	Whooping Cough	2	3	5	15	1	1	2
A 23	057	Meningococcal infections	1	3	3	2	2	2	1
A 24	058.0 058.1 058.2	Plague:— Bubonic Plague Pneumonic Plague Other Plague	— — —	— — —	— — —	— — —	— — —	— — —	— — —
A 25	060	Leprosy	1	4	4	1	5	6	3
A 26	061	Tetanus:— Tetanus of the new-born Tetanus, other forms	9 32	8 33	3 18	11 21	10 20	16 2	17 6
A 27	062	Anthrax	—	—	—	—	—	—	—
A 28	080	Acute Poliomyelitis	4	14	8	2	6	4	4
A 29	082	Acute infectious encephalitis	3	5	9	5	1	15	2
A 30	081, 083	Late effects of acute poliomyelitis and acute infectious encephalitis	—	—	1	1	1	—	1
A 31	084	Small-pox	2	1	—	—	—	—	—
		<i>Carried forward</i> ..	808	856	986	1,018	1,232	1,247	1,293

— means nil.

RETURN OF DEATHS BY CAUSES, 1953-59—continued

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Inter- mediate List Number	Detailed List Numbers	CAUSE OF DEATH (Intermediate International List, Sixth Revision, 1948)	1959	1958	1957	1956	1955	1954	1953
		<i>Brought forward</i> ..	808	856	986	1,018	1,232	1,247	1,293
		I.—INFECTIOUS AND PARASITIC DISEASES—contd.							
A 32	085	Measles	15	30	5	19	23	17	13
A 33	091	Yellow fever	—	—	—	—	—	—	—
A 34	092	Infectious hepatitis	27	27	13	12	12	11	9
A 35	094	Rabies	—	—	—	—	—	—	—
A 36		Typhus and other rickettsial diseases:—							
	100	Louse-borne epidemic typhus	—	—	—	—	—	—	—
(a)	101	Flea-borne epidemic typhus (murine)	—	—	—	—	—	—	—
(b)	104	Tick-borne epidemic typhus	—	—	—	—	—	—	—
(c)	105	Mite-borne typhus	1	—	—	—	—	1	—
(d)	102-103	Other and unspecified typhus	—	—	—	—	—	—	—
(e)	106-108	Malaria:—							
A 37	110	Vivax malaria (benign tertian)	1	—	—	—	—	1	1
(a)	111	Malariæ malaria (quartan)	—	—	—	—	—	—	—
(b)	112	Falciparum malaria (malignant tertian)	—	—	—	2	1	5	3
(c)	114	Mixed malarial infections	—	—	—	—	—	—	—
(d)	115	Blackwater fever	—	1	—	—	—	—	—
(e)	113	Other and unspecified forms of malaria	8	5	12	7	21	17	38
(f)	116-117	Schistosomiasis:—							
A 38	123.0	Schistosomiasis vesical (S. hæmatobium)	—	—	—	—	—	—	—
(a)	123.1	Schistosomiasis intestinal (S. Manson)	—	—	—	—	—	—	—
(b)	123.2	Schistosomiasis Pulmonary (S. japonicum)	—	—	—	—	—	—	—
(c)	123.3	Other and unspecified Schistosomiasis	—	—	—	—	—	—	—
(d)		Hydatid disease	—	—	—	—	—	—	—
A 39	125	Filariasis	—	—	—	—	—	—	—
A 40	127	Ankylostomiasis	—	1	2	3	2	1	2
A 41	129		—	—	—	—	—	—	—
		<i>Carried forward</i> ..	860	920	1,018	1,062	1,291	1,300	1,359

— means nil.

APPENDIX V—continued

RETURN OF DEATHS BY CAUSES, 1953-59—continued

Inter- mediate List Number	Detailed List Numbers	CAUSE OF DEATH (Intermediate International List, Sixth Revision, 1948)	1959	1958	1957	1956	1955	1954	1953
		<i>Brought forward</i> ..	860	920	1,018	1,062	1,291	1,300	1,359
		I.—INFECTIOUS AND PARASITIC DISEASES—contd.							
		Other diseases due to helminths:—							
A 42	124	Other trematode infestation ..	—	2	—	—	—	—	—
(a)									
(b)	126	Tape worm (infestation) and other cestode infestation ..	—	—	—	—	—	—	2
(c)	128	Trichiniasis ..	13	—	—	—	—	—	—
(d)	130.0	Ascariasis ..	5	12	8	7	11	15	30
(e)	130.1-130.3	Other diseases due to helminths ..	5	1	3	3	—	1	3
		All other diseases classified as infective and parasitic:—							
A 43	036	Chancroid ..	—	—	—	—	—	—	—
(a)									
(b)	037	Lymphogranuloma venereum ..	—	—	—	—	—	—	—
(c)	038	Granuloma inguinale, venereal ..	—	—	—	—	—	—	—
(d)	039	Other and unspecified venereal diseases ..	—	—	—	—	—	—	—
(e)									
(f)	049	Food poisoning (infection and intoxication) ..	—	—	—	—	—	—	—
(g)	059	Tularemia ..	—	—	—	—	—	—	—
(h)	063	Gas Gangrene ..	—	1	—	—	—	—	—
(i)	064.2	Glanders ..	—	—	—	—	—	—	—
(j)	064.3	Melioidosis ..	—	—	—	—	—	—	—
(k)	064.0, 064.1, 064.4	Other bacterial diseases ..	—	—	—	—	—	—	—
(l)	070	Vincent's infection ..	—	—	—	—	—	—	—
(m)	071	Relapsing fever ..	—	—	—	—	—	—	—
(n)	072	Leptospirosis icterohæmorrhagica (Weil's disease) ..	—	—	1	—	—	—	2
(o)	073	Yaws ..	—	—	—	—	—	—	—
(p)	086	Rubella (German measles) ..	—	—	—	—	—	—	—
(q)	087	Chicken-pox ..	1	1	—	—	—	—	—
(r)	088	Herpes Zoster ..	—	—	—	—	—	—	—
(s)	089	Mumps ..	—	—	—	—	—	—	—
(t)	090	Dengue ..	—	—	—	—	—	—	—
(u)	093	Glandular fever ..	—	—	—	—	—	—	—
(v)	095	Trachoma ..	—	—	—	—	—	—	—
(v)	120	Leishmaniasis ..	—	—	—	—	—	—	—
		<i>Carried forward</i> ..	879	938	1,031	1,072	1,302	1,316	1,397

means nil.

RETURN OF DEATHS BY CAUSES, 1953-59—continued

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Inter- mediate List Number	Detailed List Numbers	CAUSE OF DEATH (Intermediate International List, Sixth Revision, 1948)	1959	1958	1957	1956	1955	1954	1953
A 43		<i>Brought forward ..</i>	879	938	1,031	1,072	1,302	1,316	1,397
(w)	121	I.—INFECTIOUS AND PARASITIC DISEASES—contd.							
(x)	131	Trypanosomiasis ..	—	—	—	—	—	—	—
(y)	132	Dermatophytosis ..	—	—	—	—	—	—	—
(z)	133, 134	Actinomycosis ..	1	—	—	—	10	3	6
(A)	135	Other fungus infections ..	2	—	—	—	—	—	—
(B)	054 074	Scabies ..	—	—	—	—	—	—	—
	096 122	All other diseases classified as infective and parasitic	2	5	3	2	3	4	
	136-138								
		SUB-TOTAL I ..	884	943	1,034	1,074	1,315	1,323	1,403
A 44	140-148	II.—NEOPLASMS							
		Malignant neoplasm of buccal cavity and pharynx ..	71	67	52	51	50	33	38
A 45	150	Malignant neoplasm of œsophagus ..	87	80	67	52	50	50	37
A 46	151	Malignant neoplasm of stomach ..	237	148	168	144	143	109	124
A 47		Malignant neoplasm of intestine except rectum:—							
(a)	152	Malignant neoplasm of small intestine, including duodenum	3	—	—	1	1	—	—
(b)	153	Malignant neoplasm of large intestine, except rectum	26	28	26	24	18	16	22
A 48	154	Malignant neoplasm of rectum ..	32	26	22	26	14	21	11
A 49	161	Malignant neoplasm of larynx ..	22	13	16	11	9	14	9
A 50	162-163	Malignant neoplasm of trachea, and of bronchus and lung not specified as secondary ..	108	95	90	72	72	59	55
A 51	170	Malignant neoplasm of breast ..	34	24	27	33	32	25	23
		Sub-Total II Carried forward ..	620	481	468	414	389	327	319
		Carried forward ..	1,504	1,424	1,502	1,488	1,704	1,650	1,722

— means nil.

APPENDIX V—continued
RETURN OF DEATHS BY CAUSES, 1953-59—continued

Inter- mediate List Number	Detailed List Numbers	CAUSE OF DEATH (Intermediate International List, Sixth Revision, 1948)	1959	1958	1957	1956	1955	1954	1953
		<i>Brought forward</i> ..	1,504	1,424	1,502	1,488	1,704	1,650	1,722
		Sub-Total II <i>Brought forward</i> ..	620	481	468	414	389	327	319
		II.—NEOPLASMS—contd.							
A 52	171	Malignant neoplasm of cervix uteri ..	40	38	38	25	33	34	29
A 53	172-174	Malignant neoplasm of other and unspecified parts of uterus ..	31	27	19	25	24	27	28
A 54	177	Malignant neoplasm of prostate ..	10	7	4	6	2	2	3
A 55	190-191	Malignant neoplasm of skin ..	5	11	15	15	12	20	8
A 56	196-197	Malignant neoplasm of bone and connective tissue ..	6	8	6	5	6	9	4
A 57	155-156	Malignant neoplasm of all other and unspecified sites:—							
(a)	157	Malignant neoplasm of liver ..	129	96	100	84	74	77	75
(b)	158	Malignant neoplasm of pancreas ..	8	10	5	14	4	4	6
(c)	159	Malignant neoplasm of peritoneum ..	3	4	5	4	1	4	6
(d)		Malignant neoplasm of unspecified digestive organs ..	2	—	1	—	—	—	—
(e)	175-176	Malignant neoplasm of other and unspecified female genital organs	21	15	15	3	13	7	10
(f)	178-179	Malignant neoplasm of other and unspecified male genital organs	1	1	3	1	2	3	1
(g)	180-181	Malignant neoplasm of kidney, bladder and other urinary organs	24	9	9	10	8	17	11
(h)	160								
	164-165								
	192-195								
	198-199								
		Malignant neoplasm of all other and unspecified sites ..	56	55	40	48	52	41	—
A 58	204	Leukæmia and Aleukæmia ..	43	47	36	31	27	23	23
A 59		Lymphosarcoma and other neoplasms of lymphatic and hæmatopoietic system:—							
(a)	200	Lymphosarcoma ..	8	6	1	5	3	4	7
(b)	201	Hodgkin's disease ..	4	9	1	6	3	4	4
		Sub-Total II <i>Carried forward</i> ..	1,011	824	766	696	653	603	575
		<i>Carried forward</i> ..	1,895	1,767	1,800	1,770	1,968	1,926	1,978

— means nil.

RETURN OF DEATHS BY CAUSES, 1953-59—continued

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Inter- mediate List Number	Detailed List Numbers	CAUSE OF DEATH (Intermediate International List, Sixth Revision, 1948)	1959	1958	1957	1956	1955	1954	1953
		<i>Brought forward</i> ..	1,895	1,767	1,800	1,770	1,968	1,926	1,978
		Sub-Total II <i>Brought forward</i> ..	1,011	824	766	696	653	603	575
A 59	(c) 202-203 205	II.—NEOPLASMS— <i>contd.</i> Other neoplasm of lymphatic and hæmatopoietic system ..	1	1	3	1	2	2	1
A 60	(a) (b) (c) (d) 210-211 213-217 218 212 219-229	Benign neoplasms and neoplasms of unspecified nature:— Benign neoplasm of buccal cavity, pharynx and digestive system .. Benign neoplasm of female genital organs .. Benign neoplasm of male genital organs .. Benign neoplasm of other and unspecified organs and tissue ..	1 1 — 7	— 2 — 6	1 1 — 10	— — — 8	2 2 — 19	1 1 — 13	4 — — 27
	(e) (f) (g) 230 233-235 231-232 236-239	Neoplasm of unspecified nature of digestive organs .. Neoplasm of unspecified nature of other female genital organs .. Neoplasm of unspecified nature of other unspecified organs ..	3 — 31	2 — 23	— 1 26	2 — 21	— — 4	1 1 5	— — 14
		SUB-TOTAL II ..	1,005	858	808	728	682	627	621
		III.—ALLERGIC ENDOCRINE SYSTEM, METABOLIC AND NUTRITIONAL DISEASES							
		IV.—DISEASES OF THE BLOOD AND BLOOD-FORMING ORGANS							
A 61	250-251	Nontoxic goitre ..	—	—	—	1	—	—	—
62	252	Thyrototoxicosis with or without goitre ..	6	7	5	6	7	5	6
63	260	Diabetes mellitus ..	83	80	62	69	73	54	65
		Aggregate of Sub-Totals III and IV <i>Carried forward</i> ..	89	87	67	76	80	59	71
		<i>Carried forward</i> ..	2,028	1,888	1,909	1,878	2,077	2,009	2,095

— means nil.

APPENDIX V—continued
RETURN OF DEATHS BY CAUSES, 1953–59—continued

Inter- mediate List Number	Detailed List Numbers	CAUSE OF DEATH (Intermediate International List, Sixth Revision, 1948)	1959	1958	1957	1956	1955	1954	1953
		<i>Brought forward</i> ..	2,028	1,888	1,909	1,878	2,077	2,009	2,095
		Aggregate of Sub-Totals III and IV <i>Brought forward</i> ..	89	87	67	76	80	59	71
A 64		III.—ALLERGIC ENDOCRINE SYSTEM, METABOLIC AND NUTRITIONAL DISEASES— <i>contd.</i>							
		IV.—DISEASES OF THE BLOOD AND BLOOD-FORMING ORGANS— <i>contd.</i>							
		Avitaminoses and other deficiency states:—							
(a)	280	Beri-beri	61	63	132	99	93	100	129
(b)	281	Pellagra	—	—	—	—	—	—	—
(c)	282	Scurvy	—	—	—	1	—	1	1
(d)	283–284	Rickets	1	—	1	1	1	2	1
(e)	285	Osteomalacia	—	—	—	—	—	—	—
(f)	286.0	Steatorrhœa and sprue	1	—	—	—	—	—	—
(g)	286.5	Malnutrition, unqualified	105	68	52	48	32	31	31
(h)	286.1–286.4 286.6	Other avitaminoses and nutritional deficiency states	6	8	9	9	16	34	41
A 65		Anæmias:—							
(a)	290	Pernicious and other hyperchromic anæmias	1	1	1	—	2	1	5
(b)	291	Iron deficiency anæmias (hypochromic)	—	—	—	—	—	—	—
(c)	292–293	Other specified and unspecified anæmias	68	75	55	58	48	24	26
A 66		Allergic disorders; all other endocrine, metabolic and blood diseases:—							
(a)	241	Asthma	162	146	164	141	155	156	164
(b)	240 242–245	Angioneurotic œdema, urticaria and other allergic disorders	—	—	2	2	—	—	—
(c)	253	Myxœdema and cretinism	1	1	—	1	1	—	—
(d)	254	Other diseases of thyroid gland	—	—	—	—	—	—	—
(e)	270	Disorders of pancreatic internal secretion other than diabetes mellitus	2	—	—	—	—	—	—
(f)	271	Diseases of parathyroid gland	—	—	—	—	—	—	—
(g)	272	Diseases of pituitary gland	—	1	—	—	—	—	—
		Aggregate of Sub-Totals III and IV <i>Carried forward</i> ..	497	450	483	436	428	408	469
		<i>Carried forward</i> ..	2,436	2,251	2,325	2,238	2,425	2,358	2,493

— means nil

Inter- mediate List Number	Detailed List Numbers	CAUSE OF DEATH (Intermediate International List, Sixth Revision, 1948)	1959	1958	1957	1956	1955	1954	1953
		<i>Brought forward</i> ..	2,436	2,251	2,325	2,238	2,425	2,358	2,493
		Aggregate of Sub-Totals III and IV <i>Brought forward</i> ..	497	450	483	436	428	408	469
		III.—ALLERGIC ENDOCRINE SYSTEM, METABOLIC AND NUTRITIONAL DISEASES— <i>contd.</i>							
		IV.—DISEASES OF THE BLOOD AND BLOOD-FORMING ORGANS— <i>contd.</i>							
		Diseases of thymus gland ..	..	..	..	..	..	1	..
	273	Disease of adrenal gland ..	..	1	2	1	..	..	1
	274	Other diseases of endocrine glands ..	..	..	..	..	..	..	..
	275-277	Gout ..	..	..	1	..	..	..	..
	288	Other metabolic diseases ..	1	2	..	1	3	..	2
	287, 289	Polycythemia ..	..	..	..	..	..	..	..
	294	Hæmophilia ..	..	..	..	..	..	..	..
	295	Purpura and other hæmorrhagic conditions ..	..	4	4	3	6	8	8
	296	Agranulocytosis ..	7	1	..	..	..	..	..
	297	Diseases of spleen ..	..	1	2	..	1	..	1
	298	Other diseases of blood and blood-forming organs ..	1	..	..	..	..	..	1
	299		..	..	..	..	..	..	..
		AGGREGATE OF SUB-TOTALS III AND IV ..	509	459	492	441	438	417	482
		V.—MENTAL, PSYCHONEUROTIC AND PERSONALITY DISORDERS							
		Psychoses:—							
		Schizophrenic disorders (dementia præcox ..	1	1	..	1	2	6	5
	300	Maniac-depressive reaction ..	1	..	3	2	1	7	1
	301	Involutional melancholia ..	..	..	..	..	..	..	..
	302	Paranoia and paranoid states ..	..	..	..	..	..	..	..
	303	Senile psychoses ..	3	2	2	1	5	5	1
	304	Other and unspecified psychoses ..	1	1	..	1	..	3	7
	305-309		..	..	..	..	..	..	..
		Sub-Total V <i>Carried forward</i> ..	6	4	5	5	13	21	14
		<i>Carried forward</i> ..	2,454	2,264	2,339	2,248	2,448	2,388	2,520

— means nil.

APPENDIX V—continued

RETURN OF DEATHS BY CAUSES, 1953-59—continued

Inter- mediate List Number	Detailed List Numbers	CAUSE OF DEATH (Intermediate International List, Sixth Revision, 1948)	1959	1958	1957	1956	1955	1954	1953
		<i>Brought forward</i> ..	2,454	2,264	2,339	2,248	2,448	2,388	2,520
		Sub-Total V <i>Brought forward</i> ..	6	4	5	5	13	21	14
		V.—MENTAL, PSYCHONEUROTIC AND PERSONALITY DISORDERS—contd.							
		Psychoneurosis and disorders of personality:—							
A 68	311	Hysterical reaction ..	—	—	—	1	—	—	—
(b)	314	Neurotic-depressive reaction ..	—	—	—	—	—	—	—
(c)	322	Alcoholism ..	—	—	—	—	—	1	—
(d)	323	Other drug addiction ..	—	—	1	—	—	—	—
(e)	310, 312-313 315-321, 324 326 }	Other psychoneurosis and disorders of personality ..	—	—	5	—	—	—	—
A 69	325	Mental deficiency ..	1	—	2	1	—	—	—
		SUB-TOTAL V ..	7	4	13	7	13	22	14
		VI.—DISEASES OF THE NERVOUS SYSTEM AND SENSE ORGANS							
		Vascular lesions affecting central nervous system:—							
A 70	331	Cerebral hæmorrhage ..	343	340	334	335	301	257	185
(b)	332	Cerebral embolism and thrombosis ..	96	103	114	88	72	67	28
(c)	330 333-334 }	Other vascular lesions affecting central nervous system ..	46	18	11	18	5	14	19
A 71	340	Non-meningococcal meningitis ..	59	64	65	72	60	53	43
		Sub-Total VI <i>Carried forward</i> ..	544	525	524	513	438	391	275
		<i>Carried forward</i> ..	2,999	2,789	2,871	2,763	2,886	2,780	2,795

RETURN OF DEATHS BY CAUSES, 1953-59—continued

Inter- mediate List Number	Detailed List Numbers	CAUSE OF DEATH (Intermediate International List, Sixth Revision, 1948)	1959	1958	1957	1956	1955	1954	1953
		<i>Brought forward</i> ..	2,999	2,789	2,871	2,763	2,886	2,780	2,795
		Sub-Total VI <i>Brought forward</i> ..	544	525	524	513	438	391	275
		VI.—DISEASES OF THE NERVOUS SYSTEM AND SENSE ORGANS— <i>contd.</i>							
A 72	345	Multiple sclerosis ..	—	—	—	—	—	—	—
A 73	353	Epilepsy ..	9	12	3	9	3	16	4
A 74	370 371-379	Inflammatory diseases of eye:— Conjunctivitis and ophthalmia .. Other inflammatory diseases of eye ..	— — —	— — —	— — 1	— — —	— — —	— — —	— — —
A 75	385	Cataract ..	—	—	—	—	—	—	—
A 76	387	Glaucoma ..	—	—	—	—	—	—	—
A 77	390 391-393 394	Otitis media and mastoiditis:— Otitis externa .. Otitis media and mastoiditis .. Other inflammatory diseases of ear ..	— — 6 —	— — 8 —	— — 7 —	— — 8 —	— — 22 —	— — 16 —	— — 25 —
A 78	380-384 386, 388 389	All other diseases of the nervous system and sense organs:— All other diseases and conditions of eye ..	— —	— 1	— —	— —	— —	— —	— —
	342	Intracranial and intraspinal abscess ..	7	7	8	6	6	6	5
	343	Encephalitis, myelitis and encephalomyelitis ..	68	82	49	42	54	43	47
	350	Paralysis agitans ..	6	5	5	4	1	2	3
	352	Other cerebral paralysis ..	77	74	71	94	101	104	77
	356	Motor neurone disease and muscular atrophy ..	1	—	1	1	—	—	—
	357	Other diseases of spinal cord ..	2	—	1	—	1	—	—
	366	Other and unspecified forms of neuralgia and neuritis ..	1	7	2	—	—	1	4
	367	Other diseases of cranial nerves ..	—	—	—	—	—	—	1
	369	Diseases of peripheral autonomic nervous system ..	—	—	—	—	—	—	—
		Sub-Total VI <i>Carried forward</i> ..	721	721	672	677	627	579	441
		<i>Carried forward</i> ..	3,176	2,985	3,019	2,927	3,075	2,968	2,961

— means nil.

APPENDIX V—continued

RETURN OF DEATHS BY CAUSES, 1953-59—continued

Inter- mediate List Number	Detailed List Numbers	CAUSE OF DEATH (Intermediate International List, Sixth Revision, 1948)	1959	1958	1957	1956	1955	1954	1953
A 78 (k)	341, 344 351, 354 355 360-365 368 395-398	<i>Brought forward</i> ..	3,176	2,985	3,019	2,927	3,075	2,968	2,961
		Sub-Total VI <i>Brought forward</i> ..	721	721	672	677	627	579	441
		VI.—DISEASES OF THE NERVOUS SYSTEM AND SENSE ORGANS—contd.							
		All other diseases of the nervous system and sense organs ..	17	13	10	11	6	7	16
		SUB-TOTAL VI ..	738	734	682	688	633	586	457
A 79 (a) (b) (c)	400 401 402	VII.—DISEASES OF THE CIRCULATORY SYSTEM							
		Rheumatic fever:—							
		Rheumatic fever without mention of heart involvement ..	1	4	2	1	1	2	1
		Rheumatic fever with heart involvement ..	12	5	5	3	1	6	16
A 80 (a) (b) (c) (d)	410-413 414 415 416	Chorea ..	—	—	—	—	—	—	2
		Chronic rheumatic heart disease:—							
		Diseases of valves specified as rheumatic ..	53	61	63	68	53	68	55
		Other endocarditis specified as rheumatic ..	4	6	25	32	32	7	21
A 81 (a) (b) (c)	420 421 422	Other myocarditis specified as rheumatic ..	—	—	1	1	1	1	—
		Other heart disease specified as rheumatic ..	20	16	14	25	40	26	6
		Arteriosclerotic and degenerative heart disease:—							
		Arteriosclerotic heart disease including coronary disease ..	327	267	226	215	189	159	140
		Chronic endocarditis not specified as rheumatic ..	48	25	21	39	44	53	52
		Other myocardial degeneration ..	56	67	68	89	64	52	43
		Sub-Total VII <i>Carried forward</i> ..	521	451	425	473	425	374	336
		<i>Carried forward</i> ..	3,714	3,449	3,454	3,411	3,506	3,349	3,313

—means nil.

RETURN OF DEATHS BY CAUSES, 1953-59—continued

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Inter- mediate List Number	Detailed List Numbers	CAUSE OF DEATH (Intermediate International List, Sixth Revision, 1948)	1959	1958	1957	1956	1955	1954	1953
		<i>Brought forward</i> ..	3,714	3,449	3,454	3,411	3,506	3,349	3,313
		<i>Sub-Total VII Brought forward</i> ..	521	451	425	473	425	374	336
		VII.—DISEASES OF THE CIRCULATORY SYSTEM—continued							
		Other diseases of heart:—							
A 82		Acute and subacute endocarditis ..	13	30	32	24	16	10	9
(a)	430								
(b)	431	Acute myocarditis not specified as rheumatic ..	—	1	1	1	4	4	8
(c)	432	Pericarditis not specified as rheumatic ..	—	1	4	1	—	—	2
(d)	433	Functional disease of heart ..	8	12	8	6	7	10	13
(e)	434	Other and unspecified diseases of heart ..	184	191	319	179	229	196	179
A 83	440-443	Hypertension with heart disease ..	25	38	48	54	50	86	113
A 84	444-447	Hypertension without mention of heart ..	189	143	106	134	130	75	63
A 85		Disease of arteries:—							
(a)	450	General arteriosclerosis ..	7	20	16	15	21	8	24
(b)	451	Aortic aneurysm specified as non-syphilitic and dissecting aneurysm ..	3	2	—	1	1	2	4
(c)	452	Other aneurysm, except of heart and aorta ..	3	1	4	—	3	3	7
(d)	453	Peripheral vascular disease ..	—	—	—	—	1	—	—
(e)	454	Arterial embolism and thrombosis ..	—	1	—	—	—	—	—
(f)	455	Gangrene of unspecified cause ..	4	2	4	4	3	6	3
(g)	456	Other diseases of arteries ..	4	1	—	1	—	1	2
A 86		Other diseases of circulatory system:—							
(a)	460, 462	Varicose veins ..	4	3	7	1	5	3	—
(b)	461	Hæmorrhoids ..	2	—	—	—	—	1	—
(c)	463-464	Phlebitis and thrombophlebitis ..	—	—	1	—	1	1	—
(d)	465	Pulmonary embolism and infarction ..	6	3	6	4	2	3	5
(e)	466	Other venous embolism and thrombosis ..	1	—	1	1	—	—	—
(f)	467	Other diseases of circulatory system ..	4	1	4	3	—	1	12
(g)	468	Adenitis, Lymphadenitis, and other diseases of lymph nodes and lymph channels ..	1	—	—	—	—	1	1
		SUB-TOTAL VII ..	979	901	986	902	898	786	781
		<i>Carried forward</i> ..	4,172	3,899	4,015	3,840	3,979	3,761	3,758

—means nil.

APPENDIX V—continued

RETURN OF DEATHS BY CAUSES, 1953-59—continued

Inter- mediate List Number	Detailed List Numbers	CAUSE OF DEATH (Intermediate International List, Sixth Revision, 1948)	1959	1958	1957	1956	1955	1954	1953
		<i>Brought forward</i> ..	4,172	3,899	4,015	3,840	3,979	3,761	3,758
		VIII.—DISEASES OF THE RESPIRATORY SYSTEM							
		Acute upper respiratory infections:—							
A 87	470	Acute nasopharyngitis (common cold)	—	1	—	1	2	2	1
(a)	471	Acute sinusitis	—	—	—	—	1	—	—
(b)	472	Acute pharyngitis	3	7	3	3	9	9	7
(c)	473	Acute tonsillitis	2	4	2	1	9	2	3
(d)	474	Acute laryngitis and tracheitis	1	—	3	1	3	3	4
(e)									
	475	Acute upper respiratory infection of multiple or unspecified sites	—	—	—	—	—	10	—
(f)									
A 88	480-483	Influenza..	29	36	87	37	25	30	39
A 89	490	Lobar Pneumonia ..	89	91	147	163	176	119	169
A 90	491	Broncho-pneumonia ..	668	816	700	610	667	732	909
A 91	492-493	Primary atypical, other and unspecified pneumonia ..	198	159	187	248	187	215	259
A 92	500	Acute bronchitis ..	20	19	22	20	13	36	25
A 93	501	Bronchitis, chronic and unqualified:—							
(a)	502	Bronchitis unqualified ..	29	42	32	16	19	22	5
(b)		Chronic bronchitis ..	96	128	124	97	109	151	161
A 94	510	Hypertrophy of tonsils and adenoids ..	—	—	—	—	—	—	—
A 95	518	Empyema and Abscess of lung:—							
(a)		Empyema ..	14	19	8	9	14	8	18
(b)	521	Abscess of lung ..	7	22	21	14	7	11	10
		Sub-Total VIII Carried forward ..	1,156	1,344	1,336	1,220	1,241	1,350	1,610
		Carried forward ..	5,328	5,243	5,351	5,060	5,220	5,111	5,368

—means nil.

RETURN OF DEATHS BY CAUSES, 1953-59—continued

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Inter- mediate List Number	Detailed List Numbers	CAUSE OF DEATH (Intermediate International List, Sixth Revision, 1948)	1959	1958	1957	1956	1955	1954	1953
		<i>Brought forward</i> ..	5,328	5,243	5,351	5,060	5,220	5,111	5,368
		Sub-Total VIII Brought forward ..	1,156	1,344	1,336	1,220	1,241	1,350	1,610
		VIII.—DISEASES OF THE RESPIRATORY SYSTEM—continued							
A 96	519	Pleurisy	16	1	3	4	6	4	3
A 97	517	All other respiratory diseases:—							
(a)	520	Other diseases of upper respiratory tract ..	1	4	1	3	6	7	1
(b)	522	Spontaneous pneumothorax ..	3	5	—	2	3	1	1
(c)	525	Pulmonary congestion and hypostasis ..	22	28	27	15	14	5	8
(d)	523	Other chronic interstitial pneumonia ..	1	4	2	3	4	5	2
(e)	526	Pneumoconiosis	—	—	—	—	—	—	—
(f)		Bronchiectasis	58	50	39	21	27	22	25
(g)	511-516 524 527	All other respiratory diseases ..	32	27	20	18	10	15	32
		SUB-TOTAL VIII ..	1,279	1,463	1,428	1,286	1,311	1,409	1,682
		IX.—DISEASES OF THE DIGESTIVE SYSTEM							
		Diseases of teeth and supporting structures:—							
A 98	530	Dental caries	—	—	—	—	—	—	—
(a)	531, 532	Abscesses and other inflammatory diseases of supporting structures of teeth ..	—	—	—	—	—	—	—
(b)	533-535	Other diseases of teeth and supporting structures ..	—	1	—	—	—	—	—
(c)		Ulcer of stomach	62	64	53	67	72	69	66
A 99	540	Sub-Total IX Carried forward ..	62	65	53	67	72	69	66
		Carried forward ..	5,513	5,427	5,496	5,193	5,362	5,239	5,506

—means nil.

APPENDIX V—continued

RETURN OF DEATHS BY CAUSES, 1953-59—continued

Inter- mediate List Number	Detailed List Numbers	CAUSE OF DEATH (Intermediate International List, Sixth Revision, 1948)	1959	1958	1957	1956	1955	1954	1953
		<i>Brought forward</i> ..	5,513	5,427	5,496	5,193	5,362	5,239	5,506
		Sub-Total IX <i>Brought forward</i> ..	62	65	53	67	72	69	65
		IX.—DISEASES OF THE DIGESTIVE SYSTEM—continued							
A 100	541	Ulcer of duodenum ..	2	8	10	6	29	16	10
A 101	543	Gastritis and duodenitis ..	20	16	12	7	38	31	10
A 102	550-553	Appendicitis ..	8	14	16	23	17	23	20
103		Intestinal obstruction and hernia:—							
(a)	560	Hernia of abdominal cavity without mention of obstruction	4	3	4	2	6	1	7
(b)	561	Hernia of abdominal cavity with obstruction	5	4	8	6	10	10	10
(c)	570.0	Intussusception ..	5	4	8	7	3	12	7
(d)	570.3	Volvulus ..	3	5	1	2	1	4	1
(e)	570.1, 570.2 570.4, 570.5	Other intestinal obstruction without mention of hernia	21	26	15	19	18	27	19
A 104	571.0	Gastro-enteritis and colitis, except diarrhoea of the newborn:—	437	552	439	456	531	662	743
(a)		Gastro-enteritis and colitis, ages between 4 weeks and 2 years							
(b)	571.1	Gastro-enteritis and colitis, ages 2 years and over ..	133	95	125	142	137	173	193
(c)	572	Chronic enteritis and ulcerative colitis ..	3	6	16	5	4	14	12
A 105	581.0 581.1	Cirrhosis of liver:—							
(a)		Cirrhosis of liver without mention of alcoholism ..	95	100	92	116	77	92	78
(b)		Cirrhosis of liver with alcoholism ..	2	1	—	1	—	—	—
A 106	584 585	Cholelithiasis and Cholecystitis:—							
(a)		Cholelithiasis ..	6	3	2	5	6	17	9
(b)		Cholecystitis without mention of calculi ..	17	10	14	16	15	5	7
		Sub-Total IX <i>Carried forward</i> ..	823	912	815	880	964	1,156	1,192
		<i>Carried forward</i> ..	6,274	6,274	6,258	6,006	6,254	6,326	6,632

—means nil.

RETURN OF DEATHS BY CAUSES, 1953-59—continued

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Inter- mediate List Number	Detailed List Numbers	CAUSE OF DEATH (Intermediate International List, Sixth Revision, 1948)	1959	1958	1957	1956	1955	1954	1953
A 107	536 537, 538 539.0 539.1 544 542, 545 583.0 573 except 573.0 574 575 576 577, 578 580 582, 583 586 587	<i>Brought forward</i> ..	6,274	6,274	6,258	6,006	6,254	6,326	6,632
		Sub-Total IX <i>Brought forward</i> ..	823	912	815	880	964	1,156	1,192
		IX.—DISEASES OF THE DIGESTIVE SYSTEM—contd.							
		Other diseases of Digestive System:—							
		Stomatitis ..	—	1	—	1	2	3	1
		Other diseases of buccal cavity ..	—	—	1	—	—	—	—
		Functional disorders of oesophagus ..	—	—	—	—	—	—	1
		Other diseases of oesophagus ..	4	5	1	2	1	5	3
		Disorders of function of stomach ..	4	1	5	1	3	—	—
		Other diseases of stomach and duodenum ..	10	8	20	14	14	12	17
		Constipation ..	—	—	—	—	—	—	—
		Other functional disorders of intestines ..	—	—	—	—	1	—	—
		Anal fissure and fistula ..	—	—	—	—	—	—	—
		Abscess of anal and rectal regions ..	1	—	—	—	—	1	—
		Peritonitis ..	27	37	25	26	24	15	18
		Other diseases of intestines and peritoneum ..	3	9	4	1	2	3	6
		Acute yellow atrophy of liver ..	7	5	11	12	22	13	14
		Other diseases of liver ..	27	23	20	21	21	25	24
		Other diseases of gall-bladder and biliary ducts ..	3	7	6	3	3	3	3
		Diseases of pancreas ..	6	6	4	7	9	3	1
		SUB-TOTAL IX ..	915	1,014	912	968	1,066	1,239	1,280
A 108	590	X.—DISEASES OF THE GENITO-URINARY SYSTEM							
		Acute nephritis ..	11	11	9	10	16	23	19
		Sub-Total X <i>Carried forward</i> ..	11	11	9	10	16	23	19
		<i>Carried forward</i> ..	6,377	6,387	6,364	6,104	6,372	6,432	6,739

—means nil.

APPENDIX V—continued

RETURN OF DEATHS BY CAUSES, 1953-59—continued

Inter- mediate List Number	Detailed List Numbers	CAUSE OF DEATH (Intermediate International List, Sixth Revision, 1948)	1959	1958	1957	1956	1955	1954	1953
		<i>Brought forward</i> ..	6,377	6,387	6,364	6,104	6,372	6,432	6,739
		<i>Sub-Total X Brought forward</i> ..	11	11	9	10	16	23	19
		X.—DISEASES OF THE GENITO-URINARY SYSTEM—contd.							
		Chronic, other and unspecified nephritis:—							
A 109	591	Nephritis with œdema, including nephrosis	9	10	18	15	6	6	6
	592	Chronic nephritis ..	118	111	117	117	125	168	176
	593	Nephritis not specified as acute or chronic	74	76	87	96	98	68	53
	594	Other renal sclerosis ..	—	—	—	—	—	—	—
A 110	600	Infections of kidney ..	49	60	52	36	47	19	15
A 111	602	Calculi of urinary system:—	6	5	5	4	6	2	2
	604	Calculi of kidney and ureter ..	—	—	1	—	—	—	1
		Calculi of other parts of urinary system ..	—	—	—	—	—	—	—
A 112	610	Hyperplasia of prostate ..	3	9	2	3	5	6	3
A 113	620-621	Diseases of breast ..	1	—	—	—	—	—	—
A 114	603	Other diseases of genito-urinary system:—	—	1	—	3	1	1	—
	605	Other diseases of kidney and ureter ..	8	3	3	2	3	5	2
	606	Cystitis ..	—	3	2	1	4	1	2
	608	Other diseases of bladder ..	—	—	1	—	1	3	2
	607, 609	Stricture of urethra ..	—	—	1	—	1	—	2
	612	Other diseases of urethra ..	2	1	1	1	—	1	1
	613	Other diseases of prostate ..	3	—	—	—	—	—	3
	614	Hydrocele ..	—	—	—	—	—	—	—
	611	Orchitis and epididymitis ..	1	—	1	—	—	—	—
	615-617	Other diseases of male genital organs ..	—	2	—	2	2	2	—
	622-624	Salpingitis and oophoritis ..	—	2	—	1	2	4	1
		<i>Sub-Total X Carried forward</i> ..	285	294	299	291	316	309	286
		<i>Carried forward</i> ..	6,651	6,670	6,654	6,385	6,672	6,718	7,006

—means nil.

RETURN OF DEATHS BY CAUSES, 1953-59—continued

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Inter- mediate List Number	Detailed List Numbers	CAUSE OF DEATH (Intermediate International List, Sixth Revision, 1948)	1959	1958	1957	1956	1955	1954	1953
A 114	(k) (l) (m) (n) (o) (p) (q)	<i>Brought forward</i> ..	6,651	6,670	6,654	6,385	6,672	6,718	7,006
		Sub-Total X <i>Brought forward</i> ..	285	294	299	291	316	309	286
		X.—DISEASES OF THE GENITO-URINARY SYSTEM— <i>contd.</i>							
		Other diseases of ovary and Fallopian tube ..	—	—	—	—	—	—	—
		Diseases of parametrium and pelvic peritoneum (female) ..	—	1	—	—	1	2	—
		Infective disease of uterus, vagina and vulva ..	2	3	1	1	5	1	1
		Other diseases of uterus ..	1	—	1	—	—	2	—
		Disorders of menstruation ..	—	1	—	1	—	—	—
		Other diseases of female genital organs ..	—	—	—	—	—	—	—
		All other diseases of the genito-urinary system ..	5	—	—	1	1	—	—
		SUB-TOTAL X ..	293	299	301	294	323	314	288
A 115	(r) (b) (c) (d)	XI.—DELIVERIES AND COMPLICATIONS OF PREGNANCY, CHILD BIRTH AND THE PUERPERIUM							
		Sepsis of pregnancy, childbirth and the puerperium:—							
		Pyelitis and pyelonephritis of pregnancy ..	—	1	—	—	—	1	—
		Other infections of genito-urinary tract during pregnancy ..	—	4	3	1	4	8	4
		Sepsis of childbirth and the puerperium ..	2	—	—	—	—	—	—
		Puerperal phlebitis and thrombosis ..	—	—	—	—	—	—	—
		Puerperal pulmonary embolism ..	—	—	—	—	—	—	1
		Toxæmias of pregnancy and the puerperium:—							
		Pre-eclampsia of pregnancy ..	—	2	4	—	3	4	—
		Eclampsia of pregnancy ..	1	5	—	5	4	8	7
A 116	(a) (b)	Sub-Total XI <i>Carried forward</i> ..	3	12	7	6	11	21	12
		<i>Carried forward</i> ..	6,662	6,687	6,663	6,394	6,690	6,744	7,020

— means nil.

APPENDIX V—continued
 RETURN OF DEATHS BY CAUSES, 1953-59—continued

Inter- mediate List Number	Detailed List Numbers	CAUSE OF DEATH (Intermediate International List, Sixth Revision, 1948)	1959	1958	1957	1956	1955	1954	1953
		<i>Brought forward</i> ..	6,662	6,687	6,663	6,394	6,690	6,744	7,020
		<i>Sub-Total XI Brought forward</i> ..	3	12	7	6	11	21	12
A 116		XI.—DELIVERIES AND COMPLICATIONS OF PREGNANCY, CHILD BIRTH AND THE PUERPERIUM—contd.							
(c)	642.4	Hyperemesis gravidarum ..	1	—	—	—	—	1	1
(d)	642.5	Acute yellow atrophy of liver of pregnancy ..	7	2	4	6	6	11	10
(e)	642.5	Other toxæmias of pregnancy ..							
(f)	652	Abortion with toxæmia, without mention of sepsis ..	—	1	1	1	—	—	1
(g)	685	Puerperal eclampsia ..	—	—	—	—	—	—	—
(h)	642.0, 642.1 686	Other forms of puerperal toxæmia ..	—	—	—	—	—	—	2
A 117		Hæmorrhage of pregnancy and childbirth:—							
(a)	643	Placenta prævia ..	—	1	—	—	—	1	1
(b)	644	Other hæmorrhage of pregnancy ..	—	4	—	—	—	—	4
(c)	670	Delivery complicated by placenta prævia or antepartum hæmorrhage ..	—	—	—	—	—	—	—
(d)	671	age ..	2	3	3	1	5	4	—
(e)	672	Delivery complicated by retained placenta ..	5	1	7	3	3	6	3
		Delivery complicated by other postpartum hæmorrhage ..	11	11	17	12	12	17	18
A 118	650	Abortion without mention of sepsis or toxæmia ..	3	3	—	—	4	—	1
A 119	651	Abortion with sepsis ..	2	1	2	1	1	—	2
A 120		Other complications of pregnancy, childbirth and the puerperium:—							
(a)	645	Ectopic pregnancy ..	6	—	4	2	2	2	5
(b)	646	Anæmia of pregnancy ..	—	—	—	—	1	1	—
(c)	660	Delivery without complications ..	1	1	2	2	1	2	1
(d)	683	Pyrexia of unknown origin during the puerperium ..	1	2	—	3	—	2	1
(e)	689	Mastitis and other disorders of lactation ..	—	—	—	—	—	—	—
(f)	647-649 673-680 687, 688-0, 688	Other complications of pregnancy, childbirth and the puerperium ..	2	8	8	8	6	20	6
		SUB-TOTAL XI ..	45	50	55	45	52	88	68
		<i>Carried forward</i> ..	6,704	6,725	6,711	6,433	6,731	6,811	7,076

—means nil.

RETURN OF DEATHS BY CAUSES, 1953-59—continued

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Inter- mediate List Number	Detailed List Numbers	CAUSE OF DEATH (Intermediate International List, Sixth Revision, 1948)	1959	1958	1957	1956	1955	1954	1953
		<i>Brought forward</i> ..	6,704	6,725	6,711	6,433	6,731	6,811	7,076
		XII.—DISEASES OF THE SKIN AND CELLULAR TISSUE							
		XIII.—DISEASES OF THE BONES AND ORGANS OF MOVEMENT							
A 121	(a) (b) (c)	Infections of skin and subcutaneous tissue:—							
	690	Boil and carbuncle ..	3	2	1	1	3	3	3
	691-693	Cellulitis and abscess ..	12	4	10	9	11	21	29
	694-698	Other infections of skin and subcutaneous tissue ..	—	1	3	—	—	—	3
A 122	(a) (b) (c) (d)	Arthritis and spondylitis:—							
	720	Acute arthritis due to pyogenic organisms ..	1	2	—	1	—	1	—
	721	Acute nonpyogenic arthritis ..	—	—	—	—	—	—	—
	722	Rheumatoid arthritis and allied conditions ..	2	4	1	2	5	1	1
	723-725	Arthritis specified and unspecified ..	2	—	1	3	2	—	—
A 123	(a) (b)	Muscular rheumatism and rheumatism, unspecified:—							
	726	Muscular rheumatism ..	—	—	—	—	1	1	—
	727	Rheumatism unspecified ..	1	2	1	1	—	—	1
A 124		Osteomyelitis and periostitis ..	3	4	5	—	2	1	3
A 125	(a) (b)	Ankylosis and acquired musculoskeletal deformities:—							
	737	Ankylosis of joint ..	—	—	—	—	—	—	—
	745-749	Other acquired musculoskeletal deformities ..	1	—	—	—	—	—	—
126	(a) (b)	All other diseases of skin and musculoskeletal system:—							
	715	Chronic ulcer of skin (including tropical ulcer) ..	2	6	2	2	2	2	1
	700-714	All other diseases of skin and subcutaneous tissue ..	11	6	9	6	9	8	10
	716	All other diseases of musculoskeletal system ..	—	1	3	—	1	—	3
	731-736								
	738 744								
		Aggregate of Sub-Totals XII and XIII ..	38	32	36	25	36	38	54
		<i>Carried forward</i> ..	6,742	6,757	6,747	6,845	6,767	6,849	7,130

—means all.

APPENDIX V--continued

RETURN OF DEATHS BY CAUSES, 1953-59--continued

Inter- mediate List Number	Detailed List Numbers	CAUSE OF DEATH (Intermediate International List, Sixth Revision, 1948)	1959	1958	1957	1956	1955	1954	1953
		<i>Brought forward</i> ..	6,742	6,757	6,747	6,458	6,767	6,849	7,130
		XIV.—CONGENITAL MALFORMATIONS							
A 127	751	Spina bifida and meningocele ..	4	5	7	9	7	13	6
A 128	754	Congenital malformations of circulatory system ..	93	122	69	83	55	75	41
A 129	750	All other congenital malformations:—							
(a)	752	Monstrosity ..	12	6	13	16	5	13	8
(b)	753	Congenital hydrocephalus ..	7	8	10	14	6	6	5
(c)		Other congenital malformations of nervous system and sense organs ..							
(d)	755	Cleft palate and harelip ..	3	5	2	1	3	1	1
(e)	756.0	Congenital hypertrophic pyloric stenosis ..	3	—	1	2	2	3	1
(f)	756.1	Imperforate anus ..	1	—	1	—	1	4	5
(g)	756.2	Other congenital malformations of digestive system ..	5	7	4	3	8	4	12
(h)	757	Congenital malformations of genito-urinary system ..	15	17	15	25	17	17	16
(i)	758	Congenital malformations of bone and joint ..	3	4	5	2	2	3	5
(j)	759	Other and unspecified congenital malformations, not elsewhere classified ..	1	2	3	—	—	—	—
		..	14	18	12	9	9	4	9
		SUB-TOTAL XIV ..	161	194	142	164	115	143	109
		XV.—CERTAIN DISEASES OF EARLY INFANCY							
		Birth injuries:—							
A 130	760	Intracranial and spinal injury at birth ..	154	206	165	121	34	51	84
(a)	761	Other birth injury ..	4	8	2	2	5	2	5
A 131	762	Postnatal asphyxia and atelectasis ..	154	141	157	127	109	135	127
		Sub-Total XV Carried forward ..	312	355	324	250	148	188	216
		Carried forward ..	7,215	7,306	7,213	6,872	7,030	7,180	7,455

RETURN OF DEATHS BY CAUSES, 1953-59—continued

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Inter- mediate List Number	Detailed List Numbers	CAUSE OF DEATH (Intermediate International List, Sixth Revision, 1948)	1959	1958	1957	1956	1955	1954	1953
		<i>Brought forward</i> ..	7,215	7,306	7,213	6,872	7,030	7,180	7,455
		<i>Sub-Total XV Brought forward</i> ..	312	355	324	250	148	188	216
		XV.—CERTAIN DISEASES OF EARLY INFANCY—continued.							
		Infections of the newborn:—							
A 132	763 (a)	Pneumonia of newborn ..	164	140	103	102	78	99	184
	764 (b)	Diarrhoea of newborn ..	49	58	50	76	114	123	251
	765 (c)	Ophthalmia neonatorum ..	—	—	—	—	—	—	4
	766 (d)	Pemphigus neonatorum ..	—	1	—	—	—	—	—
	767 (e)	Umbilical sepsis ..	3	9	1	1	3	3	2
	768 (f)	Other sepsis of newborn ..	—	4	3	—	1	—	3
		Haemolytic disease of newborn ..	67	87	97	93	109	50	146
133	770								
A 134	769 } 771-772	All other defined diseases of early infancy ..	10	15	18	11	14	22	35
135		Ill-defined diseases peculiar to early infancy, and immaturity unqualified:—							
	773 (a)	Ill-defined diseases peculiar to early infancy ..	48	23	44	38	30	47	89
	774-776 (b)	Immaturity and immaturity unqualified ..	270	321	306	404	558	637	514
		SUB-TOTAL XV ..	923	1,013	946	975	1,055	1,169	1,444
		XVI.—SYMPTOMS, SENILITY AND ILL-DEFINED CONDITIONS							
		Senility without mention of psychoses ..	950	983	1,029	937	876	722	781
A 136	794	<i>Sub-Total XVI Carried forward</i> ..	950	983	1,029	937	876	722	781
		<i>Carried forward</i> ..	8,776	8,947	8,864	8,534	8,813	8,883	9,464

— means nil.

APPENDIX V—continued

RETURN OF DEATHS BY CAUSES, 1953-59—continued

Inter- mediate List Number	Detailed List Numbers	CAUSE OF DEATH (Intermediate International List, Sixth Revision, 1948)	1959	1958	1957	1956	1955	1954	1953
A 137		<i>Brought forward</i> ..	8,776	8,947	8,864	8,534	8,813	8,883	9,464
		Sub-Total XVI <i>Brought forward</i> ..	950	983	1,029	937	876	722	781
	780-789 except 788.8	XVI.—SYMPTOMS, SENILITY AND ILL-DEFINED CONDITIONS—continued.							
		Ill-defined and unknown causes of morbidity and mortality:—							
	(a)	Symptoms referable to systems or organs ..	387	69	601	672	877	964	1,077
		Pyrexia of unknown origin ..	253	391	457	279	179	200	320
		Convulsions ..	—	377	—	—	—	—	—
		Acute heart failure undefined ..	—	93	—	—	—	—	—
		Observation, without need for further medical care..	—	—	—	—	—	—	—
		Malingering ..	—	—	—	—	1	—	—
		Sudden death (cause unknown) ..	—	—	—	—	—	—	1
		Found dead (cause unknown) ..	30	5	13	12	19	20	23
		Other ill-defined and unknown causes of morbidity and mortality	172*	152	186	257	168	234	159
		Cases pending Coroner's Inquest ..	—	61	—	—	—	—	—
		SUB-TOTAL XVI ..	1,792	2,131	2,286	2,151	2,120	2,140	2,361
		XVII.—ACCIDENTS, POISONINGS AND VIOLENCE							
AE 138	E810-E835	<i>"E" Code: Alternative Classification of Accidents, Poisonings and Violence (External Cause)</i>							
		Motor vehicle accidents ..	163	183	164	122	60	98	124
		Other transport accidents:—							
		Railway accidents ..	1	2	5	2	2	1	—
		Water transport accidents ..	4	2	4	4	1	7	10
AE 139	(a) E800-E802 E850-E858	Sub-Total XVII <i>Carried forward</i> ..	168	187	173	128	63	106	134
		<i>Carried forward</i> ..	9,786	10,282	10,294	9,882	10,120	10,407	11,178

* Includes 51 cases pending Coroner's Inquests. — means nil.

RETURN OF DEATHS BY CAUSES, 1953-59—continued

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Inter- mediate List Number	Detailed List Numbers	CAUSE OF DEATH (Intermediate International List, Sixth Revision, 1948)	1959	1958	1957	1956	1955	1954	1953
		<i>Brought forward</i> ..	9,786	10,282	10,294	9,882	10,120	10,407	11,178
		Sub-Total XVII Brought forward ..	168	187	173	128	63	106	134
AE 139	E860-E866 E840-E845	XVII.—ACCIDENTS, POISONINGS AND VIOLENCE—continued. Aircraft accidents Other road vehicle accidents	— —	— 1	8 2	1 —	— 1	36 2	— 1
AE 140	E870 E874 E878 E883 E884 E885 E886 E888 E890-E895 E871-E873 E875-E877 E879-E882 E887	Accidental poisoning:— Accidental poisoning by morphine and other opium derivatives.. Accidental poisoning by other analgesic and soporific drugs .. Accidental poisoning by other and unspecified drugs .. Accidental poisoning by corrosive aromatics, acids and caustic alkalies Accidental poisoning by mercury and its compounds .. Accidental poisoning by lead and its compounds .. Accidental poisoning by arsenic and antimony and their compounds Accidental poisoning by other and unspecified solid or liquid sub- stances Accidental poisoning by gases and vapours Other accidental poisoning	— — — 2 — — — — 10 — 2	— — — — — — — 5 — 4	1 — — — — — — — — 3	— — — 2 1 — — — 6	— — — 3 — 1 — — — 3	— — — — — — — — — 26	
AE 141	E900-E904	Accidental falls	39	15	23	27	60	4	2
AE 142	E912	Accident caused by machinery	1	—	2	1	—	4	—
AE 143	E916	Accident caused by fire and explosion of combustible material ..	—	2	—	—	—	9	1
AE 144	E917-E918	Accident caused by hot substance, corrosive liquid, steam and radia- tion	11	19	13	23	28	14	8
		Sub-Total XVII Carried forward ..	233	233	225	189	158	181	174
		<i>Carried forward</i> ..	9,851	10,328	10,346	9,943	10,215	10,482	11,218

— means nil.

APPENDIX V—continued

RETURN OF DEATHS BY CAUSES, 1953-59—continued

Inter- mediate List Number	Detailed List Numbers	CAUSE OF DEATH (Intermediate International List, Sixth Revision, 1948)	1959	1958	1957	1956	1955	1954	1953
		<i>Brought forward</i> ..	9,851	10,328	10,346	9,943	10,215	10,482	11,218
		<i>Sub-Total XVII Brought forward</i> ..	233	233	225	189	158	181	174
		XVII.—ACCIDENTS, POISONINGS AND VIOLENCE—continued.							
AE 145	E919	Accident caused by firearm ..	1	1	4	5	1	1	1
AE 146	E929	Accidental drowning and submersion ..	72	54	64	56	63	60	48
AE 147	E913	All other accidental causes:—							
(a)	E914	Accidents caused by cutting or piercing instruments	1	1	1	—	—	—	—
(b)	E920	Accidents caused by electric current ..	5	3	6	5	5	5	3
(c)	E923	Foreign body entering eye and adnexa ..	—	—	—	—	—	—	—
(d)	E924, E925	Foreign body entering other orifice ..	—	—	2	—	—	1	—
(e)	E926	Accidental mechanical suffocation ..	1	—	1	—	1	—	—
(f)	E927	Lack of care of infants under one year of age ..	—	—	—	—	—	—	—
(g)		Accidents caused by bites and stings of venomous animals and insects ..	—	—	—	1	—	—	2
(h)	E928	Other accidents caused by animals	—	—	—	—	—	1	—
(i)	E931	Excessive heat ..	—	—	—	—	—	—	—
(j)	E932	Excessive cold ..	—	—	—	—	—	—	—
(k)	E933	Hunger, thirst and exposure ..	—	—	—	—	—	—	—
(l)	E934	Cataclysm ..	—	—	—	—	—	—	—
(m)	E935	Lightning ..	3	—	5	1	2	94	—
*(n)	E936	Other and unspecified accidents	—	—	—	—	—	—	—
(o)	E940, E941	Vaccinia including post-vaccinal encephalitis	—	—	—	—	—	—	—
(p)	E942	Other complications of small-pox vaccination	—	—	—	—	—	—	—
(q)	E954	Anæsthetic accidents ..	—	—	—	—	—	1	7
(r)	E943-E946 E950-E953 E955-E959	Accidents due to medical or surgical intervention ..	1	1	—	—	1	2	1
		<i>Sub-Total XVII Carried forward</i> ..	317	293	308	257	231	348	236
		<i>Carried forward</i> ..	9,935	10,388	10,429	10,011	10,288	10,649	11,280

* AE 147(n) "Other and unspecified accidents (E936)" is now included in AE147(8).

— means nil.

RETURN OF DEATHS BY CAUSES, 1953-59—continued

Inter- mediate List Number	Detailed List Numbers	CAUSE OF DEATH (Intermediate International List, Sixth Revision, 1948)	1959	1958	1957	1956	1955	1954	1953		
AE 147	(s)	<i>Brought forward ..</i>	9,935	10,388	10,429	10,011	10,288	10,649	11,280		
		<i>Sub-Total XVII Brought forward ..</i>	317	293	308	257	231	348	236		
		XVII.—ACCIDENTS, POISONINGS AND VIOLENCE— <i>continued.</i>									
		All other accidental causes	94	100	110	69	126	2	95		
AE 148	(a) (b) (c) (d) (e) (f) (g) (h) (i) (j)	Suicide and self-inflicted injury:—									
		Suicide and self-inflicted injury by analgesic and soporific substances	7	3	3	7	6	1	—		
		Suicide and self-inflicted injury by other solid and liquid substances	31	20	33	37	44	44	63		
		Suicide and self-inflicted injury by gases in domestic use	—	—	1	1	—	—	1		
		Suicide and self-inflicted injury by other gases	—	—	—	—	—	—	—		
		Suicide and self-inflicted injury by hanging or strangulation	79	56	75	44	60	51	51		
		Suicide and self-inflicted injury by submersion (drowning)	22	17	8	11	6	7	18		
		Suicide and self-inflicted injury by firearms and explosives	2	1	3	7	2	4	5		
		Suicide and self-inflicted injury by cutting or piercing instruments	2	5	2	5	3	2	5		
		Suicide and self-inflicted injury by jumping from high places ..	23	17	19	12	9	8	11		
		Suicide and self-inflicted injury by other and unspecified means ..	3	1	3	7	9	3	4		
		AE 149	(a) (b) (c) (d) (e) (f)	Homicide and injury purposely inflicted by other persons (not in war):—							
				Non-accidental poisoning by another person ..	—	—	—	—	2	—	—
Assault by firearms and explosives ..	2			—	—	3	2	5	6		
Assault by cutting and piercing instruments ..	29			15	1—	a	4	7	9		
Assault by other means ..	11			13	11	10	12	3	8		
Injury by intervention of police ..	3			2	1	6	—	—	—		
Execution (legal) ..	3			—	—	2	—	2	—		
Injury resulting from operations of war ..	—			—	—	—	—	1	—		
SUB-TOTAL XVII ..				628	544	589	484	516	489		
GRAND TOTAL ..				10,246	10,639	10,710	10,238	10,573	10,790		
AE 150	E910-E911 E915 E921-E922 E930, E936 E960-E962										
	E970 E971										
	E972 E973 E974 E975 E976 E977 E978										
	E963, E979										
	E980 E981 E982 E964, E983										
	E984 E985										
	E965 E990-E999										

— means nil.

